Washington Oil Spill Advisory Council

Report to the Governor

on

State-of-the-Art Oil Spill Prevention Program,

Oil Spill Advisory Council Operations,

and

Sustainable Funding for the Oil Spill Program

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BACKGROUND AND PURPOSE OF REPORT

This report fulfills the requirements of RCW 90.56.130 (1d) and (4) & (5) to satisfy the council's statutory requirement to deliver an annual report recommending ways to continually improve the state's oil spill prevention, preparedness, and response activities. It also fulfills the following requirements:

- Task 1 - Report on a state-of-the-art spill prevention program by comparing the work of at least six (6) other committees and councils and at least six (6) other spill prevention programs.

- Task 2 - Report on long-term funding options for the council and the Washington's oil spill program describing:

    - Long-term funding of the council's activities; and

    - Long-term sustainable funding for oil spill preparedness, prevention, and response activities.

This second piece of Task 2 includes funding of all current state programs relating to oil spills into marine and navigable waters (except for hazardous substances), including, in particular, Ecology's current oil spill program, and any recommendations made, pursuant to Task 1, for additional spill prevention measures.

The final version of this report will be delivered by September 15, 2006, to the Governor, the Department of Ecology, and appropriate legislative committees setting forth the council's recommendations.

In addition, this report contains the results of the council staff review of various "lessons-learned reports" and Council deliberations and recommendations regarding any state-of-the-art spill prevention components from these reports.

EXECUTIVE SUMMARY

The Washington State Oil Spill Advisory Council was created within the Governor's Office by the Legislature in 2005 as an advisory body that is tasked to provide, among other things, early consultation with government decision makers in relation to the state's oil spill prevention, preparedness, and response programs, analyses, rule making, and related oil spill activities. The Council also provides independent advice, expertise, research, monitoring, and assessment for review of and necessary improvements to the state's oil spill prevention, preparedness, and response programs, analyses, rule making, and other decisions, including those of the Northwest area committee, as well as the adequacy of funding for these programs.

As described in the previous section, this report provides:

- An annual accounting of the Council's recommendations for ways to continually improve the state's oil spill prevention, preparedness, and response activities;
- A review of a state-of-the-art spill prevention program; and
- A report on long-term, sustainable funding options for the council and the Washington's oil spill program.

The report compares the work of at least six (6) other committees and councils and at least six (6) other spill prevention programs to develop framework for a state-of-the-art spill prevention program and support recommendations for funding. The six other committees and councils studied include:

- Prince Williams Sound RCAC (PWSRCAC)
- Maine Oil Spill Advisory Council (MOSAC)
- Sullom Voe Association (SVA)/SOTEAG (Shetland Islands)
- San Francisco Bay Harbor Safety Committee (SFHSC)
- Cook Inlet RCAC (CIRCAC)
- Pacific States BC Task Force

The six other spill prevention programs studied include:

- Alaska, Department of Prevention and Emergency Response
- California, Office of Spill Prevention and Response
- Oregon, Department of Environmental Quality
- Maine, Department of Environmental Protection
- British Columbia, Office of Environmental Emergency Management
- Norway, Department of Emergency Response
- Shetland Islands
- France

The report is broken down into four basic sections:

- A discussion of a state-of-the-art spill prevention program;
- Council subcommittee reports on lessons learned, derelict vessels, rescue tug operations, federal oil spill prevention program gap analysis requirements, and oil spill response capacity;
- Discussions and recommendations for Council operations and sustainable funding; and
- Recommendations for future budgets and long-term sustainable funding of the spill program overall.

The overall findings and recommendations for this report are as follows:

State-Of-The-Art Spill Prevention Program

Compared to other states and organizations, Washington State has one of the best prevention programs. Washington is ahead of most other states in adopting innovative prevention practices. Even in a front-running program, however, there are weaknesses that must be addressed. There are jurisdictional gaps in the oil spill prevention regulations between Washington State and the Coast Guard, which extend to the International Maritime Organization (IMO) under the INTERTANCO rulings. There are also regulatory gaps for best industry prevention practices. Ecology has attempted to implement some of these best practices through its Voluntary Best Achievable Protection (BAP) standards and/or the Exception Compliance Program (ECOPRO) standards. The number of vessels participating in these programs is growing, which allows Ecology to work around some of the jurisdictional issues surrounding international and federal regulatory agencies. The Lessons Learned Subcommittee and the Federal Oil Spill Prevention Program Gap Analysis Technical Advisory Committee (TAC) both identify the need for further study and a detailed gap analysis of the full range of prevention program elements.

Subcommittee and Technical Advisory Committee Results

Lessons Learned Subcommittee - The subcommittee used the lessons-learned reports to identify causes underlying the incidents evaluated in the lessons learned reports--both primary and secondary causes. The subcommittee found that it is important to deal with each root cause through regulation--by imposing mandatory regulatory, versus voluntary, provisions to eliminate the continued existence of the root cause.

Derelict Vessel TAC – The TAC made the following recommendations:

- Close the Derelict Vessel Pipeline - The best way to prevent oil spills from derelict and abandoned vessels is to close the influx of these vessels into the "system."
- Amnesty Program - The Council requests that DNR and the Department of Ecology investigate and make a recommendation to the Council regarding an Amnesty Program. It is anticipated that under such a program citizens could dispose of unwanted vessels before they become dilapidated to the point of becoming derelict.
- Eliminate the backlog - The DV TAC learned that DNR currently estimates it will need over $4 million to eliminate the current commercial derelict vessel "backlog." The DV TAC understands that DNR estimates that $1 million to 1.5 million over five years would provide funds sufficient to handle the "backlog" and also any anticipated new influx of formerly commercial derelict vessels into the program. This funding requirement is included in the proposed budget.
- Bifurcate the DV Program - The Council recommends that the Legislature bifurcate DNR's Abandoned and Derelict Vessel Program between commercial and recreational boats. The Council further recommends that the Legislature create a new funding source derived solely from commercial vessel owners and operators to fund DNR's ability to deal with formerly commercial vessels that have become abandoned or derelict.
- Legislate temporary custody authority - The Council recommends that the Legislature grant DNR new statutory authority to take temporary custody of a vessel if the vessel poses a reasonably imminent threat to human health or safety, which would include threats from environmental contamination.
- Change the Priority Ranking System - First, the Council recommends that DNR leave intact the Priority Ranking of all vessels at the time when any governmental agency steps in to remediate contamination or other threats from the vessel. Second, the Council recommends that DNR eliminate the Ranking of Priority 3A then moving all of these to Priority 2 Ranking. If this is done, and the Legislature changes the statute to allow DNR to take temporary custody of vessels that pose a reasonably imminent threat to human health or safety, DNR will have the ability to take temporary possession of more risky and problem vessels (for example those that have sunk but still have fuel aboard).

Tug TAC – Because its charge is quite large, this TAC was unable to complete a full analysis of the above issues in the timeframe afforded to it—March 20 to May 17, 2006. The Council-approved recommendations that appear below reflect the work the TAC could do. For the rest, the TAC recommended that the Council make it a standing committee. The Council adopted this recommendation and the Tug TAC will continue to meet through and beyond this year as a standing committee. The Tug TAC made the following recommendations, however:

- Rescue Tug - The Council recommends that there be a fully funded, year-round "Straits and Coastal Waters Response/Rescue Tug," at or near Neah Bay, Washington. The primary mission of this dedicated straits and coastal waters response/rescue tug should be standing by and responding, and, when needed, providing towing services for disabled or drifting vessels in order to prevent pollution events.
- Additional studies - Even with the International Tug of Opportunity System ("ITOS"), current oil tanker escorts, and a year-round response/rescue tug stationed at Neah Bay, there are still several high-risk locations that could require additional safeguards in order to achieve state-of-the-art prevention. Therefore, it is recommended that the Tug TAC perform additional studies and information-gathering to assist the Council in making final recommendations on whether it would be beneficial to place additional rescue/ response tugs in Washington's waters.

Federal Oil Spill Prevention Program Gap Analysis TAC - The TAC's recommendations presume a substantial amount of up-front work being performed by committee members and staff to prepare a package of relevant information that will form the basis for further study of oil spill prevention in the State of Washington. That study will be preformed by a consultant and will include a comprehensive analysis of potential funding sources for oil spill prevention activities. The three tasks for the study are:

- Task One - Identify and differentiate between federal spill prevention activities that are required or authorized under law, but are not being effectively performed.
- Task Two - Identify spill prevention activities being performed by the State that are not funded by the federal government and considering possible federal funds for these activities.
- Task Three - The TAC recommends that, ultimately, as part of recommending a "state of the art" or "best industry practices" oil spill prevention program, the Council will apply the criteria given by the consultant to measure how well the activities being performed are working to achieve prevention, will identify the protection gaps, will identify the most important gaps to fill, and identify those activities (gaps) not being performed by the State due to perceived preemption issues (see U.S. v. Locke, infra).

Oil Spill Response and Protection Capacity Gap Analysis TAC – The TAC recommends developing a scope of work for an assessment of capacity of containing and recovering oil in the event of a large oil spill to be conducted by a consultant. Additional assessment of response capabilities will be requested of several agencies. The consultant's work focuses first on existing maximum response capacity, both in-region equipment and that which can be cascaded from out-of-region. A contractor is to

inventory existing capacity; that which is local and that which can be here over period up to seven days. This assumes an extremely large spill, such that all available equipment is needed/desired. In assessing the availability of out-of-region equipment, the contractor must address the degree to which those other regions will allow equipment to be removed. The contractor will ultimately assess sufficiency, utilizing a panel of experts and stakeholders that will decide "with what equipment capacity, a spill occurring in a specific area can clean up "X" amount of oil in "Y" amount of time for "Z" percentage of the time."

Council Operations and Funding

In order for the Washington Council to be successful in fulfilling its duties, it is recommended that the council:

- Secure a stable and dependable funding source;
- Identify initial priorities;
- Increase staff; and
- Form additional committees.

Goals, Objectives and Priorities - Created for the purpose of maintaining the state's vigilance in oil spill prevention and improving preparedness and response, the Washington Council has been charged with an expansive list of duties. To effectively carry out these duties, detailed above, and fulfill its mission with limited resources, the Washington Council has adopted a strategy of setting short and long term goals and objectives and an initial list of duties and activities. The Washington Council has identified the following list of goals and objectives as results oriented targets that will maximize impact on prevention, preparedness and response. In pursuit of these goals and objectives, the Washington Council will focus on the implementation priorities presented below.

Selected Goals and Objectives include:

- Present the Legislature with funding options for the oil spill program envisioned by the Council;
- Define and recommend a state-of-the-art oil prevention program that does not reinvent the wheel;
- Explore and make recommendations regarding better prevention and rapid response efforts;
- Fulfill the tracking and advisory role;
- Defining and developing partnerships with Tribal governments by working with the Northwest Indian Fisheries Commission; and
- Defining and developing partnerships with organizations, agencies, industry and interest groups.

Proactive Implementation Priorities are:

- Review of Rules and Regulations;
- Review of Best Practices and Lessons Learned and provide recommendations;
- Public Outreach and Involvement;
- Participation in Oil Spill Drills and Spill Events; and
- Independent Studies.

Committees and Subcommittees - The Washington Council committees were created to focus on specific areas vital to fulfilling the Council's statutory duties. These standing committees include the:

- Executive Committee;
- Prevention Committee;
- Preparedness and Response Committee;
- Restoration, Remediation and Recovery Committee; and the
- Public Outreach and Education Committee.

A description of the function of each of these committees is presented below. To carry out their charge, each committee has the authority to create standing or temporary subcommittees and technical advisory committees (TACs). In general, subcommittees are subgroups of the standing committee members placed in charge of researching and investigating a specific topic or issue. Technical advisory committees are panels comprised of experts in a given field convened to advise a committee in an area of special interest. These subcommittees and TACs report back to their respective committees, which in turn provide information to the full Washington Council or Executive Committee so that further action may be taken.

Staffing - An initial functional manpower analysis based on the committees, plans and objectives of the council shows that an estimated four (4) full time employees (FTEs) will be required to support the Council and manage consultants. In addition, it is recommended that an executive director be employed to direct and manage the staff in carrying out the Washington Council's directives. This position will centralize the responsibility of coordinating staff activities and ensuring that the Council's objectives and directives are being met.

Budget - The Washington Council is currently operating on an estimated budget of approximately $240,000 per year. This budget provides the Washington Council with two staff that perform meeting support and limited research and contract management services; overhead; and reimbursement for council member involvement in seven (7) council meetings, meetings for one (1) subcommittee and one (1) TAC; and funding for one (1) independent study conducted by outside consultants. Staff for the Council is temporarily housed in Office of Financial Management office space for free. The burdened expense for staff services is approximately $150,000 per year. The single independent study is being conducted for about $80,000. Overhead for the 2006 fiscal year totals approximately $20,000, which includes line items for supplies and materials,

communications, rentals and leases, printing, professional development, and subscriptions.

This budget, however, is low in comparison to the expenditures required to perform the tasks identified in the sections above. In the near future, the OFM will no longer be able to provide office space for the Washington Council. Additionally, the current staff is inadequate to provide the necessary support. The Council recommends a budget of between $579,250 and $848,400 per year or $1,158,500 to $1,696,800 per biennium. This budget was developed from the estimated 2006 fiscal budget accounting for additional annual expenses required for the Washington Council to carry out its statutorily mandated duties. A low and a high range are provided to allow the Washington Council tailor the budget to their needs based on how they decide to structure support services.

Long-Term, Sustainable Funding

This section of the report discusses the current oil spill program budget, the projected budget based on earlier recommendations in this report, existing funding mechanisms, and recommended funding sources for long-term sustainable funding based on the relative risk profiles for each oil transport and transfer sector. In addition, the report addresses potential economic impacts for oil spills and increased taxes/fees. The budget and funding recommendations include an escalation factor to ensure sustainability.

Projected Spill Program Budget - The report provides a number of recommendations to improve the oil spill prevention program and Oil Spill Advisory Council (OSAC) operations. These recommendations will add reasonable and necessary cost increases to the current operating budget requirements of over $5,000,000 per biennium. In addition, the proposal to conduct a one-time clean up derelict vessels adds $4,000,000 to the budget for the 2007-2009 and 2009-2011 Biennium. Both the derelict vessels cleanup funding and the proposed increase in the OSAC budget will have to be considered in the 2007-2009 Biennium appropriations. Table 7 represents the total proposed Spill Program budget through the 2011-2013 Biennium. Maintaining a sustainable program requires the inclusion of an inflation factor. The proposed budget uses the current federally projected in inflation rate of 2.2% per year or 4.4% per biennium. The biannual operating budget therefore ranges from a current level of $12,601,000 to a high of $19,057,802 in the 2009-2011 Biennium. The Council recommends an operating budget of $18,254,600 for the 2007-2009 Biennium.

Sustainable Funding Sources - Long-term sustainable funding of the spill program is necessary if Washington State intends to further reduce/eliminate oil spills from state waters. Providing sustainable funding can be approached from two directions. The first and probably the most direct is to levy a tax on crude oil and petroleum products as they enter the state that is sufficient to fund all requirements. This type of tax relies on the trickle-down effect to remind those who transport and/or use oil and products within the state that they may cause substantial harm to the environment if they cause a spill. The

current barrel tax is an example of this type of funding source and is probably the easiest to manage.

The second approach to sustainable funding is to levy taxes and fees based on relative risk across the spectrum of oil/petroleum transporters and users who could cause spills to the waters of the state. This approach requires a determination of potential risk and actual past performance to allocate the taxes and fees on a prorated basis. The advantage of this type of funding is that it creates a direct reminder to the potential spiller of their responsibility to prevent oil spills.

The WOSAC recommends a combination of these two funding approaches to provide sustainable revenue sources for the spill program. The report presents details on over $20 million in additional potential funding sources that the State can use to fund the spill program. The possible funding sources include the spectrum of potential spillers (tankers, cargo vessels, cruise lines, recreational boats, ferries, pipelines, tank trucks, vehicles, etc.) and those who would suffer most from spills within the navigable waters of the state (coastal tourism, aquiculture businesses, etc.). Not all of these sources were selected to make up the $20 million in additional funding available. Please see the funding section for details.

STATE OF THE ART OIL SPILL PREVENTION PROGRAM

Section Overview

This section of the report outlines the results of a study of more than six other oil spill prevention programs and compares them to the Washington State program. The programs studied include:

- Alaska, Department of Prevention and Emergency Response
- California, Office of Spill Prevention and Response
- Oregon, Department of Environmental Quality
- Maine, Department of Environmental Protection
- British Columbia, Office of Environmental Emergency Management
- Norway, Department of Emergency Response
- Shetland Islands
- France

Some programs, such as the Shetland Islands, are limited in scope, while others such as Norway, have limited information available. The information provided in this section also includes data and recommendations from the Pacific States/ BC Oil Spill Task Force. Appendix A provides an oil spill prevention matrix that compares the various aspects of a state-of-the-art prevention program across Washington, Alaska, Oregon, California, and the International/Federal jurisdictions. Other programs are also discussed below where applicable.

Although a full gap analysis of the international and federal prevention measures compared to the Washington State program is beyond the scope of this report, we included an overview of those requirements to provide a more complete picture of what a state-of-the-art prevention program should include. In the same vain, this prevention program must compliment the overarching ocean policy initiatives such as the U.S. Commission on Ocean Policy, the Pew Ocean Commission, and other regional and state initiatives that deal with large marine ecosystems including the Governor's Puget Sound Initiative.

In addition to the international and federal components, the prevention program must also highlight a close working relationship with Native American Tribal Governments whose subsistence lifestyles hinge on maintaining natural habitats free of pollution. The Washington Oil Spill Advisory Council (WOSAC) is developing a solid working relationship with local tribal stakeholders through cooperation with the Northwest Indian Fisheries Council.

Definition of a State-of-the-Art Oil Spill Prevention Program

The Council agrees that a state-of-the-art oil spill prevention program provides the organization, management, and means to prevent oil spills from occurring in the first place. It is centered on innovative best practices and standards that manage risk of oil spills within acceptable limits. It also incorporates backup measures such as rescue tugs should the primary measures fail. Additionally, prevention overlaps with preparedness and response when it seeks to highlight the risks to potential spillers and identifies critical habitat that should be protected at all cost should a spill occur.

Prevention Program Evaluation

Compared to other states and organizations, Washington State has one of the best prevention programs. Washington is ahead of most other states in adopting innovative prevention practices. Even in a front-running program, however, there are weaknesses that must be addressed. There are jurisdictional gaps in the oil spill prevention regulations between Washington State and the Coast Guard, which extend to the International Maritime Organization (IMO) under the INTERTANCO rulings.[1] These gaps result from differences in the definitions of the vessels and facilities that Ecology and the Coast Guard inspect and from whom they require plans. Ecology is attempting to bridge these gaps through adoption of voluntary best-practices programs, administrative agreements (protocols) with the Coast Guard, and through legislative action with state laws and regulations. The overall goal is to develop protocols that support shared, coordinated, and ongoing inspections. Ecology is improving its partnership with the Coast Guard in order to add the weight of the federal government to their prevention efforts. Under this initiative, Ecology will:[2]

- Train vessel and facility inspectors to monitor all types of oil transfers;
- Pursue funds for new inspectors;
- Undertake Joint Task Force/Pac Area projects;
- Participate in joint training and seminars with the Coast Guard;
- Participate in quarterly meetings with the Coast Guard;
- Continue oil transfer monitoring; and
- Produce and implement an oil transfer regulation (in process).

The later sections of this report that cover the results of the Lessons Learned Subcommittee and the Federal Oil Spill Prevention Program Gap Analysis Technical Advisory Committee (TAC) both identify the need for further study and a detailed gap analysis of the full range of prevention program elements. The matrix in Appendix A

[1] WA Department of Ecology, *Spill Prevention, Preparedness, & Response Program Plan, 2005-2007 Biennium, March 24, 2006, pp. 31*
[2] Ibid

highlights some of the gaps in implementation of the major prevention program elements. There are additional studies conducted by various organizations such as the States/BC Oil Spill Task Force and other Regional Citizens Advisory Councils (RCACs) that identify existing regulatory gaps for best industry practices.[3] These practices cover a wide range of prevention elements including:

- Watch Practices
- Training
- Navigation
- Expanded Pre-Arrival Tests and Inspections
- Improved Management Systems
- Expanded Emergency Procedures
- Expanded Event Reports
- Expanded Language Requirements
- Improved Technology
- Engineering and Construction
- Drug and Alcohol Testing
- Personnel Evaluations
- Expanded Tug Crewing
- Tug Navigation Procedures
- Tug Crew Work Hours Restricted
- Expanded Tug Crew Training
- Tug Technology
- Tug Watch Procedures
- Expanded Tug Emergency Procedures
- Tug Management System
- Tug Crew Record Keeping
- Expanded Tug Crew Drug and Alcohol Testing

Each of these major prevention elements have room for improvement starting with legislative and rule making actions that will implement the best practices. Ecology has attempted to implement some of these best practices through its Voluntary Best Achievable Protection (BAP) standards and/or the Exception Compliance Program (ECOPRO) standards.[4] The number of vessels participating in these programs is growing, which allows Ecology to work around some of the jurisdictional issues surrounding international and federal regulatory agencies.

[3] States/BC Oil Spill Task Force, *Best Industry Management and Operating Practices for Operators of Large Commercial Vessels and Tank Barges, September 2003 Project Status Report*
[4] WA Department of Ecology, *Spill Prevention, Preparedness, & Response Program Plan, 2005-2007 Biennium, March 24, 2006, pp. 11*

The major elements of Ecology's current prevention program include:

- Tank Vessel Prevention Plans (BAP/ECOPRO Standards)
- Vessel Inspections and Enforcement
- Vessel Non-oil Pollution Monitoring
- Facility Prevention Plans (BAP standards)
- Facility Operations Manuals
- Facility Inspections/Training Certifications
- Geographic Risk Management Plans
- Oil Spill Incident Investigations, Enforcement, and Lessons Learned Management
- Harbor Safety Committee
- Education and Outreach
- Neah Bay Rescue Tug
- Oil Transfer Rule
- Oil Transfer Inspections
- Interagency Coordination and Support
- Policy Development/Standard Operating Procedures
- Legislation
- Media, Education, and Technical Outreach Activities

In addition to the Coast Guard partnership initiative and the prevention elements listed above, Ecology is undertaking another initiative to establish an Emergency Response System (ERS) for the Strait of Juan de Fuca. This initiative ties into the rescue tug issue at Neah Bay, which was established under the original Office of Marine Safety (OMS) legislation[5] enacted in 1991. When the OMS was disbanded, Ecology was tasked with carrying out the remaining efforts to establish the ERS. The ERS concept encompasses:

- System information useful in anticipating and managing vessel casualties including data tracking and management;
- Maritime casualty notification and decision-making processes;
- Emergency towing (including the rescue tug);
- Places of refuge;
- Vessel salvage; and
- Vessel firefighting.

The strategy forward for this initiative includes:[6]

- Communications with stakeholders during 2006 for 2007 work;
- Requesting the WOSAC address funding for the rescue tug;

[5] RCW 88.46.130
[6] WA Department of Ecology, *Spill Prevention, Preparedness, & Response Program Plan, 2005-2007 Biennium, March 24, 2006, pp. 35*

- Proposing legislation addressing the rescue tug funding during the 2007 or 2008 Legislative Session;
- Advise and equip the WOSAC to begin specific scoping and project development in July 2007;
- Internal planning to identify staff available to work on this issue in 2007; and
- Identify potential funding options for the ERS.

Overview of Other Prevention Programs

Alaska

Alaska's oil spill prevention program has the following more prominent elements:

- Oil spill prevention and contingency plans: regulated operators must submit this plan in order to operate
  - Renewed/reviewed every 5 years
  - Department of Fish and Game, and the Dept. of Natural Resources reviews plans before they are approved by SPAR
  - Guidelines for plans outlined by ADEC http://www.legis.state.ak.us/cgi-bin/folioisa.dll/stattx03/query=*/doc/%7Bt19241%7D?
  - Companies contract with the SPAR to provide personnel, equipment and expenses for clean-up activities
    - Must be registered under the national contractor registry
  - The State prepares an annual master preparedness and contingency plan
  - Regional plans are developed and reviewed annually
  - Proof of financial responsibility by owner (50million per incident)
- Prevention credits (incentives) for non-tank vessels
  - Non-tank vessels can submit additional prevention measures in their contingency plans and receive credits that will give them a certificate and can reduce how often the need to renew their plans from three years to five.
- Risk reduction of underground storage tanks (privatized program to inspect tanks)
- Inspections of facility and vessel prevention programs (trained division staff to American Petroleum Institute standards provide on-site inspections of regulated operations of above and underground storage tanks, tank vessel and oil barges, and non-tank vessels)
- Best available technology reviews (industry plans must include and prove they use BAT, periodic evaluations of plans check to insure BAT is used).

- Education and technical assistance (outreach materials to address storage tanks, marinas, and other un-regulated facilities including manuals, handbooks, public service announcements, training, audits and inspections)[7]

California

California's oil spill prevention program has the following more prominent elements:

- Oil Spill Prevention and Response Act
- Oil spill contingency plans for all tank vessels carrying oil as cargo, marine facilities, and non-tank vessels over 300 gross tons
    - Marine Safety Branch is responsible for approving and overseeing these
- Two field offices to monitor oil transfer practices and regulatory compliance
    - Supervisor and staff are knowledgeable about local regulations and procedures
- MSB, Maritime Safety Unit and the USCG monitor vessel traffic routing to prevent accidents
    - Invested in a Vessel Traffic Service system for Los Angeles and Long Beach Harbors and instituted a pilot Automated Information System (AIS) program in San Francisco Harbor
- Maritime Safety Unit in Sacramento focused on prevention
    - Trained technical staff serve on Maritime Safety Unit
- Readiness Unit performs drills and conducts trainings
- Field Operations Unit in Los Alamitos that conducts on-site inspections, monitoring and response
- Funded harbor safety committee's for states 5 largest harbors – Harbor Safety Plans created and implemented
- Education Outreach Program[8]
- San Francisco Bay Harbor Safety Plan
- Grants the California State Lands Commission and the Department of Fish and Game enforcement responsibilities
    - State Lands Commission inspection of facilities and vessels
    - Fish and Game vessel bunkering operations and enforcement of State Law
    - Coast Guard enforces Federal Law
- Mandatory tug escorts for tank vessels in SF Bay, per report by BC/States task force that showed a 11% reduction in accidents with this practice
    - 5 year process to implement tug escorting
    - Matrix developed to match tug to tanker

[7] Alaska, DEC, Division of Spill Prevention and Response http://www.dec.state.ak.us/spar/prevention.htm
[8] California, OSPR http://www.dfg.ca.gov/Ospr/organizational/ospr_organiz.htm

- Strict pilotage rules[9]

Oregon

Oregon's oil spill prevention program has the following more prominent elements:

- Vessel plans for Columbia and Willamette rivers for tanks
  - Must be approved by DEQ
- Facility plans: 21 facilities handling over 10,000g/day, mostly in Portland, are required to have these plans that are approved by DEQ
  - Must include measures for prevention, containment and cleanup, protection of fisheries, wildlife, and public and private property from oil spills
  - Format and details for plans are specified by the DEQ http://arcweb.sos.state.or.us/rules/OARs_300/OAR_340/340_141.html
- Geographic response plans outline in detail geographic information, equipment requirements and locations, and preferred response activities
  - Includes 5 Columbia River GRPs and 5 coastal area GRPs
  - Prioritize resources to be protected and allows for immediate action
  - Created jointly between government agencies, river users, and response providers
- Drills
  - Used focus groups of industry professionals to design drills for preparedness
- Oil Spill Prevention Fund fees support:
  - Development, verification, and updates to GRPs
  - Review and monitoring of 21 facility plans
  - Review and monitoring of 12 vessel plans
  - Drills and exercises
  - Training, planning and drilling for oil spill responses
  - Fees are levied from facilities and vessel trips. As of 2001 rates for cargo and tank barge trips are $42, tank vessel trip $831, and for facilities is $4,500 annually.[10]

British Columbia

British Columbia's oil spill prevention program has the following more prominent elements:

[9] Marine Exchange of SF Bay http://www.sfmx.org/support/hsc/introhscplan.htm
[10] Oregon, DEQ, Emergency Response Program http://www.deq.state.or.us/wmc/cleanup/marinespl.htm

- "Spill reduction and prevention measures essentially involve actions pertaining to improved vessel design, traffic monitoring and navigation; reduced tanker and barge traffic; modified traffic routes to avoid accident-prone and environmentally sensitive areas; and decreased dependency on oil and its products."
- Focus on inter-jurisdictional committees and task forces to influence the activities of those with power over prevention measures
- Industry emergency response plans must include: [11]
    - Policy Statement
    - Purpose and Scope
    - Pre-emergency planning
    - Emergency response
    - Training and practice drills
    - Plan evaluation
    - Plan updates
    - Appendices and operational guidelines
    - References

Maine

Maine's oil spill prevention program has the following more prominent elements:

- Standards enforced on all oil terminal facilities, pipeline infrastructure, and vessels that include: [12]
    - Siting standards
    - Site-specific vessel to vessel transfer limitations
    - Standard operating procedures
    - Staff training
    - Licensing requirements

Norway (Norwegian Coastal Administration)

Norway's oil spill prevention program has the following more prominent elements:

- Piloting services
- Vessel Traffic Services (VTS)

[11] BC, Environmental Protection Division, Environmental Emergency Management http://www.env.gov.bc.ca/eemp/

[12] Maine, Department of Environmental Protection, Bureau of Remediation and Waste Management http://www.maine.gov/dep/rwm/rules/index.htm

- Improving channels and maintaining navigational devices
- Managing legislation
    - Norwegian pilotage act
    - Harbor act
    - Pollution control act
- Reporting and planning
- Maintain five coastal offices[13]
- Private, municipal and government contingency plans are coordinated into a national response plan by the NCA
    - Private and municipal plans are approved by the Norwegian Pollution Control Authority
- Regional and bi-lateral agreements
    - Bonn Agreement (Countries bordering the North Sea)
    - Norbit Plan (bi-lateral contingency plan with UK)
    - Copenhagen Agreement (Sweden, Finland, Denmark, Iceland)
    - Bi-lateral Agreement with Russian Federation for the Barents Sea[14]

Shetland Islands

The Shetland Island's oil spill prevention program is highly successful and is based solely on adherence to strict environmental standards originally established through a detailed environmental baseline assessment. This baseline assessment was completed prior to commencing any oil operations. The standards are enforced through a partnership of local stakeholders and the oil companies themselves.

France

We were unable to obtain any pertinent information on France's oil spill prevention program, but hope to receive some information before this report is finalized.

States/BC Oil Spill Task Force

In addition to the above prevention programs, the authors researched a number of States/BC Oil Spill Task Force reports[15] that provide strong recommendations for improving oil spill prevention programs overall. Some of these reports were used to

[13] Norwegian Coastal Administration http://www.kystverket.no/?aid=9031370
[14] ITOPF http://www.itopf.com/country_profiles/profiles/view.html
[15] The Pacific States - BC States Oil Spill Task Force http://www.oilspilltaskforce.org/projectreports.htm

construct the comparison matrix in Appendix A. They are provided here for both reference and explanation.

Table comparing state and federal oil transfer regulations:
http://www.oilspilltaskforce.org/docs/project_reports/OilTransferRegulatoryMatrix.pdf

Recommended components of any contingency plan:
http://www.oilspilltaskforce.org/docs/cplanelements.pdf

Outlines elements of a good contingency plan. Includes elements for an additional prevention plan as a part of any contingency plan:

1. Plan should outline training for all staff on prevention plan elements
2. Content requirements include: personnel training programs, operations manual, alcohol and drug awareness training, maintenance and inspections, measures to reduce risk during navigation, and site security.
3. Maintenance, inspection, and oil transfer records should be available on request
4. Outline any spills greater than a specified volume which occurred over a period of time (5yrs).
5. Site risk analysis
6. Verify compliance of plans during announced and un-announced inspections.

Best industry practices for large vessel operation to prevent spills:
http://www.oilspilltaskforce.org/docs/project_reports/VesselBipReport.pdf

Elements that were determined to be most effective at preventing spills (scored lower than 5 on a 1-10 scale with 1 being most effective):

1. Watch Practices – improved bridge watch composition, expanded bridge resource management, improved coordination with pilots, security and anchor watch required.
2. Training – expanded position specific training and shipboard drills.
3. Navigation – fixed intervals specified, berth-to-berth voyage planning.
4. Expanded tug crewing
5. Tug navigation procedures – voyage planning requirements, bar-crossing procedure requirements, navigation equipment check requirements.
6. Tug crew work hours restricted
7. Expanded tug crew training
8. Tug technology – improved towing equipment, emergency reconnection equipment requirements

West coast offshore vessel traffic risk management report – Recommendations (pg 57-62) http://www.oilspilltaskforce.org/docs/vessel_traffic/2002_Final_Report.pdf

Collision Hazards

1. Reduce collision incidents at Port entrances by using Harbor Safety committees to monitor these risks and evaluate the need for greater safety traffic systems.
2. Maritime and towing industries should implement Automatic Identification Systems earlier than the required schedule for west coast operations.
3. Create a consistent standard for ballast water operations from B.C. to California.

Historic Casualty Factors

1. "Standard of Care" for maintenance procedures, preventative measures, and actions in the event of power loss.
2. Critical Area Inspection Program for aging fleets conducted by US Coast Guard, and an expedited replacement schedule.
3. Implementation of a Commercial Fishing Vessel Safety Action Plan.

Tug Availability on West Coast

1. Enhance tug location and capability information coastwise.
2. Where tug availability risk factor is high council recommends investment in a dedicated rescue tug, creation of a stand by tug fund, or adoption of regulations requiring rescue tug contracts held by vessel operators.

Distance Offshore Risk Factor

1. Where no other management measures exist, vessels of 300 gross tons or larger should stay 25 nautical miles offshore. Vessels carrying oil should stay 50nm offshore.
2. Vessels should seek route guidance from Captain of the Port of VTS.

Data Improvements

1. Include causal factors in vessel incident databases and share this information coastwise.
2. Particular attention/research should be given to vessels that have been grounded, and prevention measures should be included in a final report.

Recommendations to improve pilotage:
http://www.oilspilltaskforce.org/docs/project_reports/FinalPilotage.pdf

1. Marine pilots should have access to databases of information about vessel movements, characteristic, etc.
2. Develop minimum work or minimum rest standards for pilots in certain areas
3. Continuing education standards for following elements at least once every five years – Bridge Resource Management: radars and advance radar plotting aids, and advanced ship handling courses.

4. Performance Monitoring – performance monitoring systems for pilots with unlimited licenses.
5. Non-regulatory and confidential near miss reporting system
6. Pilot regulatory agencies and pilot authorities should develop formal incident investigation procedures
7. Follow US Coast Guard rules guiding drug/alcohol use and testing
8. Pilot coordination checklist should be used to exchange critical navigation information to the navigation watch officer after a pilot boards a vessel.
9. Require navigation watch officer to monitor collision avoidance communications while their ship is being piloted.
10. Review incidents for vessels that don't require pilotage, if the number of incidents is greater than those vessels that require pilotage than a requirement should be considered.
11. Pilot regulatory agencies and pilot authorities should help fund continuing education in ports where vessel traffic is to infrequent to support education in areas where it is deemed appropriate.
12. Each major west coast port should establish a Harbor Safety Committee

Recommendations to prevent oil spills based on human error:
http://www.oilspilltaskforce.org/docs/project_reports/HumanFactorRec.pdf

1. Oil Handling Facilities – management support for prevention programs, formal risk assessment and corrective action, performance incentives, redundant safety systems, and annual performance benchmarks are all recommended.
2. Boat Owners, Marinas, and Boatyards – regular maintenance, best management practices for fueling, proper disposal of waste oil/fuels, runoff control, education, and contracts with boat owners to insure best management practices are used.
3. Tankers and Tank Barges
    a. Management policies and programs - monitoring of operations, maintenance, waste management systems, and spill and near-miss incidents. Employee involvement and communications, and redundant safety systems and annual performance benchmarks are recommended. Several international standards are recommended for certification of management policies and programs.
    b. Watch practices – navigation watch, anchor watch, engineering watch, security rounds, and written emergency procedures for tank and non-tank vessels.
    c. Comprehensive personnel training program – specific training for each positions, refresher trainings, and regular drills.
    d. All personnel meet OPA 90 work standards
    e. Owner/operator must ensure no crew-members are under the influence of drugs/alcohol and must submit prescription drug records for crew. Tank

barge tow operators should have three licensed or tow operators on board during a transit.

4. Bunkering – persons in charge (PIC) should emphasize proper procedures and maintain communication during all phases of bunkering. All staff's duties should be clearly defined and training provided. Owner/operators of vessels/facilities should be able to show compliance and produce documents upon request.

Comparison of Oil Spill Prevention Programs

Recommended State-of-the-Art Prevention Program Elements

The following state-of-the-art prevention program elements were recommended by other program managers during interviews. The location of the program is listed in parentheses.

- Oil spill prevention and contingency plans for tank vessels and facilities (WA, California, Oregon, Alaska, B.C., Norway and Maine)
- Geographic Response Plans (WA, Oregon and Alaska)
- Vessel and facility inspections (WA, California, Oregon, Alaska, and Maine)
- Educational outreach (WA, Alaska and California)
- Modified traffic routes to avoid sensitive areas (WA and BC)
- Vessel Traffic Service (VTS) (WA, California and Norway)
- Harbor Safety Committees for all major ports focused primarily on prevention (WA, California and Norway)
- Mandatory escort tugs for high risk vessels in major ports (WA in Puget Sound, California and Alaska in Prince Williams Sound)
- Contingency plan incentives for non-tank vessels (WA and Alaska)
- Geographic response model for rescue tug(s) (California)
- Oil transfer monitoring field offices with designated/trained staff (WA and California)
- Contingency plans for Railroads (Alaska)
- Spill reporting liability laws (Maine)
- Decreased dependency on oil and its products (BC)

Program Elements Not Recommended

The following prevention program elements were not recommended for a state-of-the-art program:

- Alaska's Best Available Technology (BAT) mandate has relied on industry to create BAT regulations which has made them weak;
- Billing individuals for underground storage tank leaks led to non-reporting of spills (Maine); and
- Field wardens, responsible for conducting inspections, weren't paid well so positions left vacant were cut even though dedicated funding was available (California OSPR).

WOSAC SUBCOMMITTEE RESULTS

This section of the report expands on the prevention program discussions above and provides the results of one subcommittee and four technical advisory committees (TACs) tasked by the WA OSAC to conduct specific reviews and studies to enhance the spill program.

Lessons Learned Subcommittee

Note to reviewers - The Council itself has not adopted the Lessons Learned Subcommittee report. It is included herein for information. The subcommittee will present their findings to the Council in July for deliberation.

Subcommittee Composition and Charge

The composition of the Lessons Learned subcommittee is Kevin Ranker, Chair and Council member, Jim Davis, Council member, Peter Becker, Alternate for Council member Brett Bishop, and Bruce Wishart, People for Puget Sound.

The subcommittee's recommendations are based on the various "lessons-learned reports" that are related to the prevention of oil spills. These reports were issued by the Washington Office of Marine Safety ("OMS"), the Washington Department of Ecology ("Ecology"), and others. These reports are reviewed in a memorandum delivered to the Council by Jacqui Brown Miller at the March 2006 Council meeting.

Subcommittee's Approach and Recommendations

The subcommittee used the lessons-learned reports to identify causes underlying the incidents evaluated in the lessons learned reports--both primary and secondary causes. The subcommittee found that it is important to deal with each root cause through regulation--by imposing mandatory regulatory, versus voluntary, provisions to eliminate the continued existence of the root cause. These root causes are set forth later in this section of this report.

The subcommittee then asked whether there are mandatory regulations in place to address identified root causes. A preliminary analysis shows there are regulations in place that

may address some of the root causes to some degree. However a full gap analysis needs to be done. The subcommittee, therefore, recommends that the Council approve a gap analysis that addresses the following:

- Are there areas where there is no mandatory regulation to address root causes;
- Are there areas where improvements to mandatory regulations would likely reduce risk; and
- Are there areas where adequate enforcement mechanisms that would achieve "behavior modification" are lacking.

As this will be a large undertaking that would involve extensive legal research of international, federal, and state laws and involve considerable analysis, the subcommittee recommends that the Council approve the above-described research project either by staff, the Attorney General, a consultant, or a combination thereof.

This subcommittee recommends, at this time, even without the legal review and gap analysis, that there be mandatory regulations set in place to address all the root causes identified in this report. The subcommittee makes this recommendation without specifying what jurisdiction or entity should oversee and enforce mandatory provisions. In part, this is due to a lack of understanding by the subcommittee members of what constitutional-Intertanko-- limitations may limit Washington's ability to impose regulatory requirements. Additionally, the subcommittee finds there are examples of the Department of Ecology being overly timid in "pushing the envelop" under Intertanko, preferring to take the litigation-adverse route-a choice not to regulate-- even where there may be legal arguments to support State regulation.

Therefore, this subcommittee recommends that the Council commission either its staff, the Attorney General, or a consultant to provide an independent analysis identifying what legal support there is for the State to pass and enforce regulations on the lessons-learned recommendations this subcommittee finds should be mandatory.

Where it is determined the state lacks authority, the subcommittee would urge the Council to recommend that the State work with its federal congressional delegation to pursue federal regulation, and, additionally, pursue a compact between other west-coast states and Canada to make these provisions mandatory.

Primary and Secondary Causes of Incidents Underlying Lessons Learned Reports

General Description of Incidents Set Forth in Lessons Learned Reports

Generally, the incidents underlying the lessons-learned reports were navigational problems due to mechanical failures or improper execution of navigational skills; mishaps during bunkering or fuel transfers due to overfilling of tanks, and wave or weather-induced shifts in tank vessels during fuel cargo transfer that overcomes the

capacity of winches or moorings, and mechanical equipment failures. If one were to create a "causal pyramid," these would appear on top. Secondary causes would appear in the middle of the pyramid. Primary root causes would appear at the base, as the ultimate cause for the incidents on top.

The following paragraphs set forth the subcommittee's findings regarding the underlying causes to the above incidents.

Secondary Causes for Underlying Incidents

Secondary causes for these mishaps mostly include:

1. inadequate staffing during fuel transfers

    - (Oversees Washington, Foss 248-P2), (organizational factor);

2. failure to have sufficient staff, such as lookouts to assist with watch and lookout duties

    - (Padre Island), (organizational factor);

3. failure to have master on bridge at critical juncture of trip

    - (Monchegorsk), (organizational factor);

4. inadequate rest of the crew

    - (Padre Island, M/V Anadyr, Super Rubin), (organizational factor);

5. failure to perform proper maintenance of equipment

    - (Donna V, Verbier,; Arcadia, TV Arco Texas, Oversees Boston, Oversees Washington), (organizational factor- lack of training and consequences to employees);

6. improper use of equipment

    - (Oversees Boston, Super Rubin), (human factor and organizational factor- lack of training and consequences);

7. failure to implement proper emergency procedures

- (Donna V), (human factor and organizational factor- lack of training and consequences);

8. navigational misjudgment, including failure to follow established navigational procedures or to properly use navigational equipment

- (Barge 101), (human factor and organizational factor- lack of training);

9. inter-crew communications breakdowns

- (M/V Anadyr, Monchegorsk, Padre Island), (human factor or organizational factor- lack of training);

10. failure of crew to be in proper place during critical junctures of transit;

- (Padre Island), (human factor or organizational factor- lack of training);

11. failure to timely and accurately communicate navigational problems to pilots and Coast Guard

- (Barge 101, Tai Shan Hai, Selendang Ayu), (organizational factor- lack of training);

12. miscalculating transfer flow rates and failing to properly use fuel transfer equipment

- (M/V Anadyr), (human factor and organizational factor- lack of training, pushing employees too hard, and understaffing);

13. deviation from company safety and emergency protocols

- (Barge 101, M/V Anadyr, Super Rubin), (human factor and organizational factor-lack of training and enforcement of consequences for not following procedures as detected in quality check systems);

14. failure to adequately fill ballasts, yet heading into predictable sea conditions where full ballasts would be necessary for successful navigation

- (Tai Shan Hai), (organizational failure);

15. failure to analyze available environmental information and to calculate capability of equipment to perform during heightened weather conditions

- (TV Arco Texas, Oversees Washington), (organizational factor);

16. deviation from established navigational plans

- (Monchegorsk, M/V Anadyr), (human factor and organizational factor-lack of training and enforcement of consequences for not following procedures as detected in quality check systems);

17. use of equipment that was inadequate to keep the vessel and in any given weather and sea-state conditions

- (Selendang Ayu), (organizational factor);

18. failure to become familiar with local waters and conditions;

- (Padre Island); (human factor or organizational factor-lack of training);

19. complacency

- (Padre Island, M/V Anadyr, Super Rubin, Overseas Washington), (human factors and corporate factors in not implementing policies to fight);

20. failure to pre-boom

- (Foss 248-P2), (organizational factor); and

21. improper equipment installation and ship systems design

- (Super Rubin, Ediz Hook), (organizational factors).

Primary or Root Causes for underlying Incidents

Regarding primary-or root causes, Ecology has reported that the most significant causes of investigated accidents through 2005 are **organizational factors**-such as corporate cultures that do not value adhering to corporate policy on routine maintenance or that demand adhering to vessel schedules despite risks- (51%), followed by **human factors** (31%), equipment failures (15%), and environmental factors (3%). Ecology stated

“"Primary Cause" is the over-arching or summary factor that was seen as most contributory by the investigator, not the ‘immediate cause.’” Investigated Incident Casual Summary, located at <http://www.ecy.wa.gov/programs/spills/prevention/measures/Investigated_Summary/investigation%20summary.html>.

A review of the lessons-learned reports indicates that this assessment is correct, with the caveat that the lessons-learned reports essentially state that most mechanical failures are rooted in organizational factors and human error. This may tend to increase the percentage of organizational factors and human error as contributing factors to incidents.

The lessons-learned reports indicate that the root cause underlying most incidents is corporate or company policies that do not:

1. place safety and/ or maintenance above commercial considerations, which contributes to preventable mechanical failures and preventable human error

    - (most incidents, in particular the Donna V, Verbier, Tai Shan Hai, Selendang Ayu, Super Rubin);

2. emphasize maintenance and safety over vessel schedules or commercial hauling capacity

    - (Donna V, Ta Shan Hai, T/V Arco Texas);

3. require adequate staffing

    - (Padre Island, Foss 248-P2, T/V Arco Texas, Oversees Washington);

4. require that managers refrain from pushing employees beyond safe limits-such as long shifts and schedules that do not allow for adequate rest and recovery

    - (Padre Island, M/V Anadyr, Super Rubin);

5. assure that the crew has the resources, training, and support necessary to maintain safety on the ship

    - (Padre Island, Verbier);

6. stress safety and competency and do not require employees to comply with company safety and competency policies and procedures

    - (Barge 101, Padre Island, M/V Anadyr) or with equipment care manuals on maintenance (T/V Arco Texas);

7. institute quality-check systems to assure that safety procedures are being correctly implemented, followed by an insistence upon consequences for not scoring high on quality-check systems

- (Barge 101, Padre Island); and

8. stress fighting complacency

- (Super Rubin)

9. fight the tendency toward communication failures

(M/V Anadyr)

10. require the performance of adequate routine maintenance

- (Donna V, Arcadia, T/V Arco Texas, Oversees Boston, Oversees Washington);

11. require the education of employees about the existence of preventative maintenance procedures

- (Donna V, Verbier);

12. require that employees review local conditions in newly traveled areas

- (Padre Island, Ta Shan Hai) or review environmental conditions that may affect operations (T/V Arco Texas; Oversees Washington);

13. have passage plan requirements

- (Monchegorsk); and

14. address what to do in predictable emergency or weather/ sea-state situations

- (Verbier, Ta Shan Hai).

Not only are these findings consistent with Ecology's viewpoint, they are also consistent with the findings made by the Pacific States and British Columbia in 1995. The States / BC group studied 64 incidents and determined a cause for 62 of them. Investigated Vessel Incidents in Washington State: Pacific States/British Columbia Data (A Pareto View), located at http://erc.msh.org/quality/pstools/pspareto.cfm and

http://www.ecy.wa.gov/programs/spills/prevention/measures/States_BC%20Data%20for%20Washington%20State/investigated_vessel_incidents_in.html.

The group did a “Parento View” causal analysis. The philosophy underlying this analysis is that only a "vital few" factors are responsible for producing most of the problems. This principle can be applied to quality improvement to the extent that a great majority of problems (80%) are produced by a few key causes (20%).

The States/ BC analysis set forth organizational factors as the greatest contributing primary factor of the studied incidents. These organizational factors included:

1. inadequately planned maintenance program or inadequate implementation of planned maintenance program;
2. lack of or inadequate procedure/ policy;
3. inadequate implementation of procedure/ policy
4. installation;
5. equipment design;
6. poor oversight;
7. sabotage/ international violation;
8. insufficient personnel;
9. lack of supervision; and
10. inadequate training.

Additionally, the human factors set forth by this group as being primary contributing factors for studied incidents included:

1. inattention;
2. judgment;
3. communication;
4. procedural errors;
5. experience;
6. improper equipment use; and
7. fatigue.

It is the subcommittee’s opinion, based on its own review of the lessons-learned reports, that some of these -- numbers 3, 4, 5, 6, and 7 -- can be traced to several of the organizational factors set forth in the paragraph above, which tends to magnify the importance of dealing with organizational factors as root causes.

Further, this subcommittees conclusion is consistent with the Volpe Study, which asserts that the main contributory causes of spills are: (1) human and organizational error, including poor communications, poor training, and lack of preventive maintenance; (2) traffic congestion; and (3) severe weather conditions such as wind and waves (*Scoping Risk Assessment - Protection Against Oil Spills in the Marine Waters of Northwest Washington State* 1997).

Statement of the Root Causes Most Closely Related to Spills

The subcommittee finds that it is important to prioritize controlling root causes in and focus first on those causes that contribute the most to spills.

In 2003, Ecology and industry came together to examine the voluntary measures being taken by industry and to prioritize which measures are most closely linked to preventing oil spills. September 2003 Project Status Report, Best Industry Management and Operating Practices for Operators of Large Commercial Vessels and Tank Barges, available from Ecology's Spills Program. In the analysis, voluntary measures to control the things with the closest causal connection to oil spills were ranked highest.

The items ranked most highly for large commercial vessels, in order of importance, were:

1. watch practices (improved bridge watch composition, expanded bridge resources, improved coordination with pilots, security founds, and anchor watch required);

2. training (expanded position-specific training and expanded shipboard drills);
3. navigation (fix intervals, berth-to-berth voyage planning);
4. work hours;
5. expanded pre-arrival tests and inspections;
6. improved management systems;
7. adequate management oversight;
8. expanded emergency procedures;
9. expanded event reports;
10. expanded language requirements;
11. technology (improve emergency towing system);
12. engineering (steering flat inspection requirements, maneuvering fuel management);
13. drug and alcohol testing;
14. personnel evaluations required.

The items ranked most highly for tug and tank barge operators, in order of importance, were:

1. expanded tug crewing;
2. tug navigation procedures (voyage planning requirements, bar-crossing procedure requirements, navigation equipment check requirements);

3. tug crew work hour restrictions;
4. expanded tug crew training;
5. tug technology (improved towing equipment, emergency reconnection equipment requirements);
6. tug watch procedures (expanded navigation watch composition, security

round requirements);
7. expanded tug emergency procedures;
8. tug management system (enhanced management program, vessel visitation requirements);
9. tug crew record keeping (work hour record requirements); and
10. expanded tug crew drug and alcohol testing).

In light of these rankings, the subcommittee advises that the Council recommend that governmental entities adopt measures to eliminate all of the following root causes, in priority as they are listed.

The subcommittee also recommends that the Council adopt a recommendation that all measures adopted by mandatory regulatory measures. The subcommittee generally finds that voluntary measures, which lack enforcement mechanisms, will be inadequate to achieve widespread implementation of corporate policies that implement precautionary measures to adequately address these issues. This is because the dominant business model operates under a capital bias, where returns to capital are the primary objective and loss to the state's environmental capital is of peripheral concern. For companies, it is often worth gambling that the costly accident will never occur even in the absence of precautionary measures. If this gamble is won, the company maximizes return to capital by not having to internalize costs associated with precautionary measures or costs associated with an incident. Therefore, it is important for there to be effective mandatory requirements, non-compliance penalties, and an enforcement regime that increase the odds that companies not implementing thoughtful precautionary measures will receive less return to capital than those who follow the law and implement measures that significantly diminish risk of harm to Washington's natural capital.

Additionally, for mandatory requirements to be effective at reducing risk, they should be done with an eye toward the specific details of day-to-day operations and toward ways to assure adequate government oversight.

For all of the above reasons, the subcommittee finds that regulations should be in effect that require all companies involved in commercial activities that threaten to spill oil into Washington's waters enact and enforce corporate policies that:

1. fight complacency and place safety considerations above commercial considerations such as vessel schedule or commercial hauling capacity, so as not to contribute to preventable human and mechanical failures or to vessels being equipped with improperly designed or installed equipment;

2. require adequate staffing, such as staffing during fuel transfers and staff to assist with watch and lookout duties;

3. require adequate configuration or placement of staff, such as having a master on the bridge at critical juncture of trip;

4. require that employees work hours be limited, so as not to push them beyond safe limits-such as long shifts and schedules that do not allow for adequate rest and recovery;

5. provide complete procedures on proper navigation and passage plan completion and maintenance

6. assure that the crew has the resources, training, and support necessary to maintain safety on the ship, such as training for

- preventative maintenance requirements and procedures
- position-specific duties
- proper use of equipment generally
- proper use of equipment during fuel transfers
- properly calculating flow rates during fuel transfers
- proper navigation procedures, such as

    i. properly filling ballasts before sailing
    ii. reviewing and respecting local conditions in newly traveled areas
    iii. adhering to passage/ navigational plans

- properly analyzing available environmental information and calculating the capability of equipment to perform during heightened weather conditions;

7. require employees to comply with company safety and maintenance policies and procedures, and increase management oversight by measuring employee competency by instituting quality-check systems that demonstrate whether safety and maintenance procedures are being correctly implemented and followed, then imposing meaningful consequences on employees that not demonstrate competency;

8. fight the tendency toward communication failures, such as those between the crew and with pilots and the Coast Guard;

9. require the equipping of all vessels with equipment that will be adequate in any given weather and sea-state conditions;

10. establish, provide training on, and require compliance with proper emergency procedures, such as what to do in predictable emergency or weather/ sea-state situations; and

11. require pre-booming before all fuel transfers and to refrain from transferring fuel where pre-booming is not safe.

As fishing vessels and small craft have been responsible for the highest number of spills, the volume of which tends to add up to substantial amounts, and as the lessons-learned reports are based on incidents involving ships from many sectors-not just tank vessels-- , the subcommittee recommends that mandatory regulations be adopted to address root causes on all vessels, including tankers, tank barges, and cargo, fishing, and passenger vessels.

Derelict Vessel Removal Program (insert from the TAC)

Introduction

On May 18, 2006, the Washington Oil Spill Advisory Council reviewed recommendations made to it from the Derelict Vessel Technical Advisory Committee ("DV TAC"), which was formed at the Council's March 2006 meeting. This memo reflects the recommendations of the DV TAC that were adopted by the full Council.

Composition of Technical Advisory Committee

The Committee was comprised of Brett Bishop, Council Member and Co-chair; Nick Jones, Council Member and Co-chair; Lee Roussel, Council Member; Greg Whittaker, Council Member; and Bruce Marshall, Harbor Director at the Port of Olympia. Others who participated in the discussions were Rick Mraz, Aquatics, Department of Natural Resources ("DNR"); Kevin Parrington, U.S. Coast Guard (USCG); and Jacqui Brown Miller, Council staff.

Charge of Derelict Vessel Technical Advisory Committee

The DV TAC was charged with reviewing the universe of reports available on derelict vessels in Washington. The committee was to provide a critical analysis of these reports and articulate a recommendation to the Council on how to improve the derelict vessel program to eliminate oil spills from these vessels.

Council Approved Recommendations of the Derelict Vessel TAC

A. Close the Derelict Vessel Pipeline

The best way to prevent oil spills from derelict and abandoned vessels is to close the influx of these vessels into the "system." The focus should be on finding creative and effective ways to stop irresponsible people from allowing their boats to become dilapidated while remaining in waters of the State of Washington.

1. Marina Slip Rental Registration Requirement

The Council recommends legislation requiring marinas or state agencies managing state-owned aquatic lands to lease boat slips only after obtaining proof of current vessel registration as a condition of the boat slip lease. The Council recommends that DNR engage in this practice beginning immediately as it renews marina leases.

2. Shutting Down Frequent Flyers

On June 7, 2006, a new law relating to derelict vessel misdemeanors will become effective. Under this law, a boat owner causing a vessel to become derelict can be prosecuted for a misdemeanor. The Council endorses this provision. In addition, the Council requests that DNR gather information and statistics on the effectiveness of the misdemeanor language and report back to the Council in one year on the effectiveness of this provision in stopping repeat offenders.

If the misdemeanor sanction is insufficient to stop repeat offenses, the Council will consider recommending to the Legislature that a new law be passed making it illegal for "frequent flyers" (those with one or more misdemeanor convictions) to own a boat without registering the vessel, having specified sufficient insurance, or obtaining a sufficient bond to cover costs if the vessel becomes derelict. At that time, the Council would also consider recommending that the Legislature escalate the seriousness of the offence's classification. For example, this new crime, owning a vessel as a repeat offender without complying with the insurance and bonding requirement, could be a gross misdemeanor or felony.

3. Amnesty Program

The Council requests that DNR and the Department of Ecology investigate and make a recommendation to the Council regarding an Amnesty Program. It is anticipated that under such a program citizens could dispose of unwanted vessels before they become dilapidated to the point of becoming derelict. The Council also requests that DNR and Ecology provide the Council with a statement of any statutory changes they find would be needed to allow DNR and Ecology to manage and fund this program. The Council further requests that DNR and Ecology provide the Council with their ideas on the best funding sources and funding arrangements for an amnesty program.

Once it receives and reviews this information, the Council will recommend that the Legislature create an Amnesty Program. In addition, the Council recommends that the Legislature create a grant program that would fund boat yard owners wanting to properly

dispose of vessels heading for the derelict or abandoned vessel pipeline. This program could be administered through DNR's Abandoned and Derelict Vessel Program.

B. Changes to DNR's Program

1. "Backlog"

The DV TAC learned from DNR that the anticipated costs of removing formerly commercial derelict vessels exceeds the funding currently available to the DNR's Abandoned and Derelict Vessel Program.

Therefore, the Council recommends that the Legislature do a one-time allocation of funds sufficient to handle what some have coined a "backlog" of derelict vessels—a large number of formerly commercial derelict vessels, the disposal of which will be extremely expensive and, to date, has been cost prohibitive. If, thereafter, the derelict vessel program is properly funded (as provided infra in section B2), the Council understands that this "backlog" should not reappear.

The DV TAC learned that DNR currently estimates it will need over $4 million to eliminate the current commercial derelict vessel "backlog." The DV TAC understands that DNR estimates that $1 million to 1.5 million over five years would provide funds sufficient to handle the "backlog" and also any anticipated new influx of formerly commercial derelict vessels into the program. Chairman Cooper also believes that a one-time allocation from the Toxics Account, managed by Ecology could be used to pair down the "backlog."

2. Bifurcate DNR Program and Add New Commercial Vessel Revenue Stream

The DV TAC learned from DNR that the majority of the vessels being handled by the derelict vessel program are formerly commercial vessels, yet the entire program is funded solely from a recreational vessel registration program.

The Council recommends that the Legislature bifurcate DNR's Abandoned and Derelict Vessel Program between commercial and recreational boats. The Council further recommends that the Legislature create a new funding source derived solely from commercial vessel owners and operators to fund DNR's ability to deal with formerly commercial vessels that have become abandoned or derelict. We recommend that DNR place this revenue source in a separate account and not commingle it with recreational vessel funds as it should be used solely to handle formerly commercial derelict vessels.

The Council would like Environmental International to analyze the best commercial-vessel related revenue stream to tap as part of your revenue analysis.

3. New statutory authority to DNR for taking temporary custody of a vessel's posing reasonably imminent threats

The Council recommends that the Legislature grant DNR new statutory authority to take temporary custody of a vessel if the vessel poses a reasonably imminent threat to human health or safety, which would include threats from environmental contamination. With this change, DNR could remove vessels that pose environmental or navigational risks not quite to the threshold at which the U.S. Coast Guard will become involved in disposing a vessel.

4. Change DNR Priority Ranking System

The Council makes two recommendations to DNR regarding its Priority Ranking system. The Council understands from DNR that DNR can make changes to this system as a matter or rule or policy.

First, the Council recommends that DNR leave intact the Priority Ranking of all vessels at the time when any governmental agency steps in to remediate contamination or other threats from the vessel.

The purpose of this recommendation is to eliminate the likelihood that an entity, like the Coast Guard, will remediate the contamination or navigation threat but must legally leave the boat in place where it can easily become a repeat problem vessel. We understand that if DNR decreases a vessel's Priority Ranking after another entity responds to it, DNR will be unable to remove the vessel from the water if it falls below other vessels in Priority Ranking. This change will allow DNR to remove vessels before they become re-contaminated.

The caveat to this recommendation may be where a responsible owner owns a boat, even thought it is legally considered derelict, such that DNR is assured to its satisfaction that the vessel will not pose an immediate risk.

Second, the Council recommends that DNR eliminate the Ranking of Priority 3A then moving all of these to Priority 2 Ranking. If this is done, and the Legislature changes the statute to allow DNR to take temporary custody of vessels that pose a reasonably imminent threat to human health or safety, DNR will have the ability to take temporary possession of more risky and problem vessels (for example those that have sunk but still have fuel aboard).

Escort and Rescue Tug Systems (insert from the TAC) Recommendations for Further Study

Introduction

On May 18, 2006, the Washington Oil Spill Advisory Council reviewed recommendations made to it from the Tug Technical Advisory Committee (TAC), which was formed at the Council's March 2006 meeting. This memo reflects the recommendations of the Tug TAC that were adopted by the full Council.

Composition of Tug Technical Advisory Committee

The Committee is comprised of Stuart Downer, Council Member and Chair; Jim Davis, Council Member; Mike Doherty, Council Member; Bruce Wishart, Lobbyist for People for Puget Sound; Captain Andy Coe, Puget Sound Pilots; and Chad Bowechop, Makah Tribe.

Others who participated in the discussions were Norm Davis, Washington State Department of Ecology ("WDOE"); Jon Neel, WDOE; Frank Holmes, Western States Petroleum Association ("WSPA"); Greg Hanon, WSPA; Ed Irish, WSPA; John Veentjer, Pacific Merchant Shippers Association; Matt Brown, Foss Maritime; Richard Rodger, Senate Water, Energy and Environment staff; Jason Tama, U.S. Coast Guard; Rich Berkowitz, Transportation Institute; Fred Felleman, Ocean Advocates; Jeff Shaw, Council Member; David Sawicki, BP; and Craig Lee, a member of the public.

Charge of the Tug Technical Advisory Committee; New Standing Committee

In keeping with the Council's mandate of a "State of the Art" and zero-spill prevention program for Washington, the TAC was charged with the task of recommending changes to Washington's escort and rescue tug systems. The TAC was charged with reviewing the universe of reports available on escort and rescue tugs. The committee was to provide critical analysis of these reports and articulate recommendations to the Council that will support the Council's deliberations on the escort tug and rescue tug issues. The specific subjects this TAC was charged to study and make recommendations about include:

- instituting cost-effective placement of rescue tugs in strategic locations;
- changes to the escort tug program; and
- ways to ensure continual funding of the Neah Bay rescue tug.

Because this charge is quite large, this TAC was unable to complete a full analysis of the above issues in the timeframe afforded to it—March 20 to May 17, 2006. The Council-approved recommendations that appear below reflect the work the TAC could do. For the rest, the TAC recommended that the Council make it a standing committee. The Council adopted this recommendation and the Tug TAC will continue to meet through and beyond this year as a standing committee.

The standing Tug TAC will review all changes in regulations, vessel traffic, and all other changes that could affect vessel escorting, response/rescue vessels, as well as spill response vessels. The TAC will make recommendations to the Council on possible actions that would be needed because of those changes. The TAC will continually review current practices, equipment types, crew training, and equipment locations in order to ensure the establishment of a state-of-the-art prevention and response program. It will also make recommendations on additional studies and funding requirements in order to maintain the best possible system of prevention for the citizens of the Washington State.

Council approved recommendations of the Tug TAC

A. Neah Bay Tug- Duration and Funding

The Council recommends that there be a fully funded, year-round "Straits and Coastal Waters Response/Rescue Tug," at or near Neah Bay, Washington. The primary mission of this dedicated straits and coastal waters response/rescue tug should be standing by and responding, and, when needed, providing towing services for disabled or drifting vessels in order to prevent pollution events.

This vessel should be a state-of-the-art vessel. It should also be of sufficient power, maneuverability, and deck configuration to enable it to timely respond to any vessel, within the response area, in sea-state conditions up to and including extreme weather. The response area of operation should encompass the Pacific Coast of the State of Washington, along with all "Marine Waters" within 60 nautical miles from Buoy "J" at the entrance to the Strait of Juan de Fuca, the Strait, and its western approaches.

In addition, the vessel should have secondary capabilities of the following, as long as the primary service of the tug is not compromised or jeopardized:

- spill response;
- firefighting; and
- early salvage capabilities, as part of a critical partner of a salvage company.

B. Other Response Tugs; Location, Duration, and Funding

Even with the International Tug of Opportunity System ("ITOS"), current oil tanker escorts, and a year-round response/rescue tug stationed at Neah Bay, there are still several high-risk locations that could require additional safeguards in order to achieve state-of-the-art prevention. In particular, the following areas could benefit from the placement of additional response/rescue tugs:

- Haro Strait/Boundary Pass;
- the southern Washington coast; and
- the Columbia River area.

These areas have a deficiency of available and capable tugs operating on a regular basis under ITOS. These areas were identified as high risk due to significant navigational hazards, vessel traffic, as well as being areas of important natural resources to the state.

Therefore, it is recommended that the Tug TAC perform additional studies and information-gathering to assist the Council in making final recommendations on whether it would be beneficial to place additional rescue/ response tugs in Washington's waters.

The TAC recommended establishing a Department of Ecology managed "Tug Fund" to allow placing additional response/rescue tug(s) at strategic locations based on the outcome of the additional studies. The Council chose not to make this recommendation and, instead, asked for further discussion of this issue.

The Council accepted the TAC's recommendation that an update be done on the many existing response/rescue tug studies and that this study contain all up-to-date information, including the effect of the Standards of Training for Certified Watch, industry voluntary upgrades, and new U.S. Coast Guard requirements. It would be important to determine whether any of these new standards would have any effect on the placement of current or future tug resources.

C. Escort tugs

As there was little time to study this issue, the Tug TAC, as a standing committee, will continue studying tug escort issues, in particular those related to human factors.

The Tug TAC discussed the current tug escort regulations for oil tankers traveling east of Port Angeles and recommended that the Council recommend no changes to these regulations at this time.

As for all other vessels and all other locations, the Tug TAC will determine whether additional escort requirements for other vessels, in particular the location and length of escorts, should be recommended. The Tug TAC is particularly interested in studying other tank vessels (tank barges- both ATB and towed), petroleum or chemical product

tankers, and other vessels such as foreign flagged vessels, bulk carriers, and cargo carriers. The standing Tug TAC would also like to review all regulatory changes that would impact current escort requirements, and make recommendations to the Council on those changes and their impact to the State's zero-spill prevention program. The Council agrees with this approach.

D. International Tug of Opportunity System.

ITOS is "a good tool to have in the tool box," but is not something on which to rely completely. Tugs may not abandon a tow to be a primary rescue tug, and they cannot be relied on to be "in the right place at the right time," with or without tows, so as to be a critical part of a state-of-the-art or zero-spill program.

Federal Oil Spill Prevention Program Gap Analysis (insert from the TAC)

Composition of Federal Funding Technical Advisory Committee

This Technical Advisory Committee ("TAC") is comprised of Phil Winberry, Council Member and Chair; Maura Brueger, Council Member; Kennie Endleman, Representative Jay Inslee's Office; Eric Johnson, Washington Public Ports Association ("WPPA"); and Thornton (Cholly) Mercer, Rainier Petroleum Corporation and Jacqui Brown Miller, Council staff.

Committee's Scope of Work

The Federal Funding TAC has been charged with three tasks:

1. Identify and differentiate between federal spill prevention activities that are required or authorized under law, but are not being effectively performed—both under federal statute and federal regulation. Consider whether funding or other factors impact performance.

2. Identify spill prevention activities being performed by the State either under an agreement with the federal government, or on its own volition, which the federal government could be, but is not, undertaking itself, and which the federal government does not provide funds to Washington to perform. Consider possible federal funds for these activities.

3. Identify spill prevention gaps that exist as a result of lack of funding or as a result of United States v. Locke, et al, 529 U.S. 89 (2000).

Committee's Proposed Approach to Scope of Work With Specific Recommendations

The TAC's recommendations presume a substantial amount of up-front work being performed by committee members and staff to prepare a package of relevant information that will form the basis for further study of oil spill prevention in the State of Washington. That study will be preformed by a consultant and will include a comprehensive analysis of potential funding sources for oil spill prevention activities.

The up-front work is set forth in Phase One of Tasks One and Two below. The consultant work is set forth in Phase Two of Tasks One and Two below, and in Task Three.

A. Task One - Identify and differentiate between federal spill prevention activities that are required or authorized under law, but are not being effectively performed.

i. Phase One- Information Collection

This TAC will utilize existing staff resources, including Oil Spill Advisory Council ("the Council") staff, Department of Ecology ("DOE") staff, the staff of federal agencies assigned to participate with the Council, and U.S. Coast Guard ("USCG") personnel, to gather the information from the federal agencies, the General Accounting Office ("GAO"), and from other relevant sources that emerge. The information received will be compiled into a list of oil spill prevention activities currently authorized or mandated to be performed by the following federal agencies, including, but not limited to:

- USCG;
- U.S. Fish and Wildlife Service;
- U.S. Department of Transportation;
- Office of Pipeline Safety;
- U.S. Minerals Management Service;
- Olympic Coast National Maritime Sanctuary;
- U.S. National Parks Service;
- U.S. Department of Agriculture;
- U.S. Department of Homeland Security;
- U.S. Department of the Interior;
- U.S. Army Corps of Engineers;
- National Marine Fisheries Service; and the
- U.S. Environmental Protection Agency.

In addition, the TAC will obtain from federal agency staff or the GAO information regarding performance measures or other reports that outline oil spill prevention performance measures.

ii. Phase Two – Gap Identification

The information collected in Phase One, above, will be analyzed by an independent outside consultant chosen by the Council.

This analysis will identify the prevention activity gaps between what is authorized and required to be done and what is actually being done; identify specific oil spill prevention activities that are not being performed, even though they are statutorily or otherwise assigned to a particular federal government entity or agency.

The consultant will address the funding source for the relevant activity (those being performed as well as those being ignored), i.e., is the activity funded by Congress and, if so, is the funding adequate for the assigned task or is the agency not managing the task or applying available funds in an appropriate manner (such as leveraging homeland security funds).

The Council could request that the consultant propose criteria against which the Council independently can measure whether the activities assigned to the USCG and other federal agencies are being performed and how well they are being performed.

B. Task Two - Identify spill prevention activities being performed by the State that are not funded by the federal government and considering possible federal funds for these activities.

i. Phase One- Information Collection

Phase one is to work with DOE and the USCG to identify spill prevention activities being performed by the State through a Memorandum of Understanding ("MOU") with the USCG.

The TAC will solicit from the State, the oil spill prevention activities being performed or tasked to other State agencies, either by statute or administrative regulation including the:

- Department of Fish and Wildlife;
- Department of Natural Resources;
- Archaeology and Historic Preservation;
- Department of Transportation;
- Department of Health;
- Washington State Patrol;
- Washington State Fire Marshall;
- Washington Military Department Emergency Management Division;
- Washington State Parks;
- Utilities and Transportation Commission;
- Puget Sound Action Team; and

• Northwest Straits Commission.

ii. Phase Two – Gap Identification

Phase two is to ask the consultant to perform a secondary task of reviewing the MOU currently in place between USCG and DOE and to recommend to the Council whether it adequately addresses oil spill prevention needs for the State and whether to expand the prevention activities done by DOE under the MOU.

The TAC will also ask the consultant to recommend a strategy to obtain federal or other funding to address the critical prevention activities not being preformed or being preformed ineffectively. In the alternative, the consultant may want to recommend a funding strategy for activities recommended by the Council as part of a "best practices" oil spill prevention program. Also, this may include recommending federal funding for activities preformed by the State under the MOU with USCG.

C. Task Three – Gap Analysis and Legal Evaluation

The TAC recommends that, ultimately, as part of recommending a "state of the art" or "best industry practices" oil spill prevention program, the Council will apply the criteria given by the consultant to measure how well the activities being performed are working to achieve prevention, will identify the protection gaps, will identify the most important gaps to fill, and identify those activities (gaps) not being performed by the State due to perceived preemption issues (see U.S. v. Locke, infra).

The TAC recommends that we seek legal assistance from the Attorney General's Office and Council staff to analyze such gaps and determine whether the state activity could fill the gap or whether federal preemption will bar the State from taking preventive or curative action. This particular charge cannot reasonably be undertaken until the gaps are identified as provided above. The TAC also recommends that the Council adopt a strategy for funding prevention activities in order to fill the prevention gaps.

This TAC anticipates being able to begin working on the tasks set forth above for the TAC in October 2006, and being able to complete the work by February 2007. At that time, the TAC proposes that the Council submit a supplemental report to the Legislature and Governor setting forth a summary of the information collected, a scope of work for the consultant, and an estimated cost for the consulting work. To this end, this TAC recommends that the Council extend this TAC's life through February 2007.

In summary, the Federal Funding TAC recommends that the TAC continue to meet and to begin work immediately to gather the information readily available from state and federal agencies outlined in this scope of work, and that it use the results of this work to

further flesh out and draft a consultant's scope of work that the Council will review prior to its being included in the Council's September report.

Of course, it is understood that the extensive analysis recommended as a work product for an independent consultant can only be undertaken when, and if, funds are made available.

Oil Spill Response and Protection Capacity Gap Analysis (insert from TAC)

Composition of Technical Advisory Committee

The Committee is comprised of Mike Moore, Council Member and Chair, David Sawicki, Committee member; Jerry Joyce, Council Member, Miguel Perez-Gibson, Committee Member, and Tom Copeland, Committee Member.

Others in attendance were Richard Wright, Marine Spill Response Corporation (MSRC); Roger Mowery, Washington State Maritime Cooperative (WSMC); John Veentjer, Pacific Merchant Shipping Association (PMSA) ; Foster Robinson, United States Coast Guard, (USCG); Chris Stadiem, NRC Environmental Services (NRCES); and Jacqui Brown Miller, Council Staff.

Scope of Work and Recommendations for full Council

This scope of work assumes that the assessment of capacity of containing and recovering oil in the event of a large oil spill is conducted by a consultant. Additional assessment of response capabilities will be requested of several agencies. The consultant's work focuses first on existing maximum response capacity, both in-region equipment and that which can be cascaded from out-of-region. A contractor is to inventory existing capacity; that which is local and that which can be here over period up to seven days. This assumes an extremely large spill, such that all available equipment is needed/desired. In assessing the availability of out-of-region equipment, the contractor must address the degree to which those other regions will allow equipment to be removed. The contractor will ultimately assess sufficiency, utilizing a panel of experts and stakeholders that will decide:

"with what equipment capacity, a spill occurring in a specific area can clean up "X" amount of oil in "Y" amount of time for "Z" percentage of the time."

The contractor will fully utilize existing credible response inventory and equipment rating information.

A. Inventory the existing oil spill response equipment that currently exists for:

- the Puget Sound region;
- the Columbia River;
- Grays Harbor;
- British Columbia (as this can be made available particularly for shared waters spills); and
- elsewhere on the west coast.

1. Indicate the owner and the time-to-Washington location (as described below).
2. Consider availability for use of equipment outside its local community.
3. Address ability to effectively deploy available cascaded equipment.

B. Categorize the inventory by major equipment type:

- boom (type, size, length);
- skimmers (types, individual and cumulative Effective Daily Recovery Capacity (EDRC);
- on-water storage barges (number, individual and cumulative capacities, dedicated, non-dedicated), such as:
  1. barges
  2. bladders
  3. others
- on-shore storage capacity (likely available quantity);
- dispersant and dispersant application equipment;
- in-situ burn equipment;
- shoreline cleanup; and
- oil remobilization.
- Note: sorbent materials and other consumables (fuel) are not inventoried the same as other equipment.

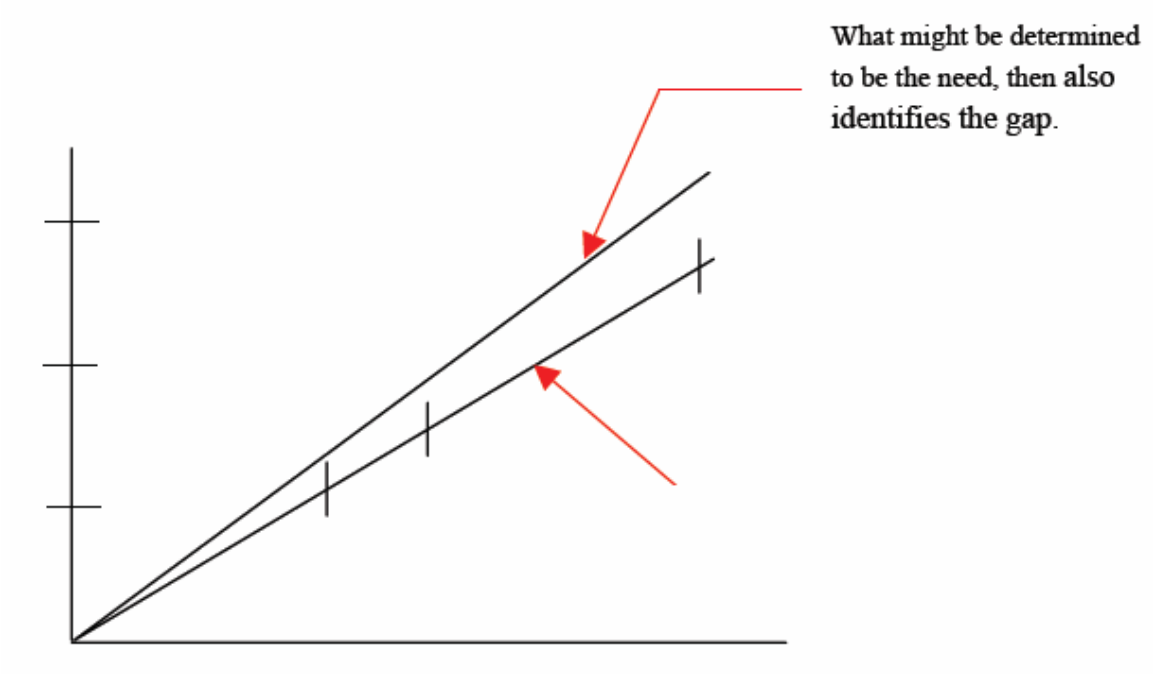
C. List the time to cascade equipment to the following response areas:

- San Juan Islands;
- north/central sound;
- south sound;
- Strait of Juan de Fuca (central/eastern end);
- Strait of Juan de Fuca entrance;
- outer coast (offshore scenario/onshore drift scenario);
- Grays Harbor;
- lower Columbia (below Longview);
- central Columbia (between Longview and Bonneville); and
- upper Columbia (above Bonneville).

D. Identify personnel resources, such as:

- skill set that matches equipment;
- those who are trained and available; and
- additional transient workers trained by PRCs needed in the first seven days to recover oil or limit spread.

E. Identify the availability of the following supplemental equipment:



G. Establish a panel of stakeholders (including response experts, community members, regulators, etc) to assess the inventory results, identify areas where additional response capabilities would be effective, including a list of specific recommendations. Factors to be considered must include:

- equipment ratings;
- weather impacts on equipment capability;
- requirements for personnel to optimize use of the equipment;
- potential for equipment downtime (e.g. failures pending repair, replacement), need for redundancy, replacements, and relief personnel; and
- effective utilization of fishing vessels in response (Department of Ecology (DOE) in progress.)

Scope of Work and Recommendations for full Council of items to be done by others than the Consultant

The Council will request information from other State entities on the following topics:

- The Geographic Response Plan (GRP) review process should include a summation of the equipment needed to fulfill the GRP plan-of-action and a list of the available resources and their locations. This should be requested of DOE during this GRP review process and periodic reports issued to the Council.

- The capacity to respond to a spill provided by rescue/salvage tug or tugs should be reviewed by the Tug TAC and reported to the Council.

- The capacity to respond to oiled wildlife should be evaluated by the Washington State Department of Fish and Wildlife and reported to the Council.

- The capacity to do extended shoreline cleanup and restoration should be evaluated by DOE and the Department of Natural Resources and reported to the Council.

- The capacity provided by trained members of the public should be evaluated by DOE and reported to the Council.

COUNCILS

Councils Studied

- Prince Williams Sound RCAC (PWSRCAC)
- Maine Oil Spill Advisory Council (MOSAC)
- Sullom Voe Association (SVA)/SOTEAG (Shetland Islands)
- San Francisco Bay Harbor Safety Committee (SFHSC)
- Cook Inlet RCAC (CIRCAC)
- Pacific States BC Task Force

The following presents an overview and discussion intended to assist the Washington Oil Spill Advisory Council (Washington Council) in developing an organizational structure, initial priorities and activities, and budgetary requirements. Still in its formative stages the Washington Council requested an analysis of other oil spill advisory councils and committees to aid in that development. This report presents that analysis and provides recommendations to the Washington Council.

With rare exception, all of the councils and committees examined are successful to varying degrees and provide a benefit to their respective regulatory systems. The ultimate success of these groups is due in large part to the commitment and vision of the members, staff, and agency personnel that participate in the councils and committees. Although each group is involved in the reduction of oil spills, the charge and purpose of each group differs, therefore making certain groups more or less relevant for purposes of informing the Washington Council.

Based on an analysis of the identified oil spill councils and committees, the most appropriate model for the Washington Council to emulate is that of the Cook Inlet RCAC. Of the groups examined, CIRCAC is the most analogous in both purpose and size. The RCACs are charged with duties similar to those of the Washington Council. The primary difference between the roles that the RCACs and the Washington Council play is that the RCACs are explicitly charged with monitoring the environment for oil related impacts. The other councils and committees examined have less of a focus on public involvement and are not provided with a budget with which to conduct independent research.

CIRCAC has an annual budget of approximately $1.2 million and a staff of six (6). In contrast, PWSRCAC manages a staff of sixteen (16) and an annual budget of $3 million. PWSRCAC began as a small council with a staff of two to three personnel that oversaw the work of contracts. However, with financial resources available, the council decided to expand the size of the staff to address additional issues of importance. Although the Washington Council may change as it matures and secures a more stable funding source, CIRCAC appears to be a realistic model to follow for the near future.

The Washington Council is currently supported by a volunteer Executive Director, one project analyst, and an administrative assistant. Due to the heavy workload of addressing the Washington Council's information and research requests in addition to supporting the initial creation of the council, the current staff is performing at full capacity. Under the current structure, the Washington Council's ability to engage in other necessary projects and tasks, is limited.

Currently, overhead costs are low as the Office of Financial Management is providing office space. This only a temporary situation and in the near future OFM will no longer be able to provide office space for the Washington Council. Other arrangements must be made and the Washington Council will be required to incur additional financial obligations.

The Washington Legislature has provided initial funding in the amount of $550,000 per biennium. The current funding stream of $225,000 per year is available on a temporary basis to aid the Washington Council in its initial creation and to allow it time to identify and locate an adequate and permanent funding stream.

In order for the Washington Council to be successful in fulfilling its duties, it is recommended that the council:

- Secure a stable and dependable funding source;
- Identify initial priorities;
- Increase staff; and
- Form additional committees.

The following sections provide an overview of the purpose, proposed structure and priorities of the Washington Council; a more detailed examination of the public outreach component of the Alaska RCACs; and a discussion of the different councils and committees examined.

WA OSAC and Comparison to Other Councils and Committees

Of the councils and committees throughout the world that address oil spill prevention and preparedness issues, the Washington Council identified the following organizations to be examined in further detail:

- Prince William Sound Regional Citizens' Advisory Council
- Cook Inlet Regional Citizens' Advisory Council
- Sullom Voe
- California Oil Spill Technical Advisory Committee
- San Francisco Harbor Safety Committee
- Pacific States – British Columbia Task Force
- Maine Oil Spill Advisory Committee

The analysis of these organizations provides the Washington Council with a better understanding of how they are structured, their activities and accomplishments, and the budget required to support their endeavors. This section first presents the purpose and duties of the Washington Council and the other oil spill groups examined. This is followed by a brief overview of how the different councils and committees are structured, their program objectives, staff and funding. This information was obtained through conversations with members and staff, reports, publications, and the Internet sites of the different groups.

Purpose and Duties

The following section presents the purpose and duties of the Washington Council. For comparison purposes, the purpose and duties of the other councils and committees examined are presented to provide a context for understanding the program and staffing structures of these groups.

WA OSAC

The Washington Council is an advisory body[16] created for the primary purpose of maintaining "the state's vigilance in, by ensuring an emphasis on, the prevention of oil spills to marine waters, while recognizing the importance of also improving preparedness and response."[17] To ensure that the Washington Council provides the Governor with a fair and balanced assessment and advice regarding Washington's oil spill program, the legislature established that the Council be comprised of the diverse interest groups that can be influenced environmentally, socially and economically.

In carrying out its primary purpose, the Washington Council may form subcommittees and technical advisory committees,[18] as well as hire a professional staff and experts to support the Washington Council's efforts.[19] As the Washington Council is created by statute, it is limited to utilizing committees and staff to carry out activities that fall within the scope of duties set out by the Washington Legislature. RCW 90.56.130 charges the Washington Council with the following duties:

- Early consultation with government decision makers in relation to the state's oil spill prevention, preparedness, and response programs, analyses, rule making, and related oil spill activities;
- Providing independent advice, expertise, research, monitoring, and assessment for review of and necessary improvements to the state's oil spill prevention, preparedness, and response programs, analyses, rule making, and other decisions,

[16] RCW 90.56.120(1)(c).
[17] RCW 90.56.120(1)(b).
[18] RCW 90.56.120(9).
[19] RCW 90.56.130(1)(a).

including those of the Northwest area committee, as well as the adequacy of funding for these programs;

- Monitoring and providing information to the public as well as state and federal agencies regarding state of the art oil spill prevention, preparedness, and response programs;
- Actively seeking public comments on and proposals for specific measures to improve the state's oil spill prevention, preparedness, and response program, including measures to improve the effectiveness of the Northwest area committee;
- Evaluating incident response reports and making recommendations to the department regarding improvements;
- Consulting with the department on lessons learned and agency progress on necessary actions in response to lessons learned;
- Promoting opportunities for the public to become involved in oil spill response activities and provide assistance to community groups with an interest in oil spill prevention and response, and coordinating with the department on the development and implementation of a citizens' involvement plan;
- Serving as an advisory body to the department on matters relating to international, national, and regional issues concerning oil spill prevention, preparedness, and response, and providing a mechanism for stakeholder and public consideration of federal actions relating to oil spill preparedness, prevention, and response in or near the waters of the state with recommended changes or improvements in federal policies on these matters;
- Any other activities necessary to maintain the state's vigilance in preventing oil spills; and[20]
- By September 15, 2006, the council shall recommend to the governor and appropriate committees of the legislature, proposals for the long-term funding of the council's activities and for the long-term sustainable funding for oil spill preparedness, prevention, and response activities.[21]
- By September 1st of each year, the council shall make recommendations for the continuing improvement of the state's oil spill prevention, preparedness, and response activities through a report to the governor, the director, and the appropriate committees of the senate and house of representatives.[22]
- The Washington Department of Ecology is also tasked with consulting with a committee comprised of different groups, including the Council, to prepare and update the statewide master oil and hazardous substance spill prevention and contingency plan.[23]

These duties are broad and encompass a wide range of activities that can support improved oil spill prevention, response and preparedness in Washington. Outside of this charge, the Council is largely free to establish its priorities, goals and activities,

[20] RCW 90.56.130.
[21] RCW 90.56.130(4).
[22] RCW 90.56.130(5).
[23] RCW 90.56.60(1).

organizational structure and size, which will be limited primarily by budget and resources.

Other Councils and Committees

RCACs

Of the councils and committees examined, the regional citizen advisory councils (RCACs) in Alaska are the only groups in the United States that have a notable support staff and operating budget. These RCACs, the Prince William Sound RCAC (PWSRCAC) and the Cook Inlet RCAC (CIRCAC) are independent non-profit organizations created pursuant to the Oil Spill Pollution Act of 1990 (OPA 90). A board of members numbering nineteen (19) and thirteen (13) respectively governs these groups. Although they are independent of state and federal government, the scope of authority and activity of the RCACs are confined by both statutory and contractual provisions entered into between the RCACs and the regional oil industry as directed by OPA 90.

OPA 90 sets out that the two RCACs be created either through mandatory imposition of specific statutory requirements or through alternative advisory groups.[24] The RCACs and relevant oil industry companies have elected to meet the statutory intent and requirements of OPA 90 through the creation and support of alternative voluntary groups. Both RCACs have entered into funding contracts with oil industry companies. In addition, the voluntary status of the RCACs is contingent upon meeting annual certification to ensure that "the organization[s] foster[] the general goals and purposes of this section and [are] broadly representative of the communities and interests in the vicinity of the terminal facilities."[25] Thus, it is important to have an understanding of the statutory goals and duties of the RCACs under OPA 90.

As conceived in OPA 90, the RCACs are charged with a broad list of duties. The statute mandates that the RCACs:

- Provide advice and recommendations to the Association on policies, permits, and site-specific regulations relating to the operation and maintenance of terminal facilities and crude oil tankers which affect or may affect the environment in the vicinity of the terminal facilities;
- Monitor through the committee established under subsection (e), the environmental impacts of the operation of the terminal facilities and crude oil tankers;
- Monitor those aspects of terminal facilities' and crude oil tankers' operations and maintenance which affect or may affect the environment in the vicinity of the terminal facilities;
- Review through the committee established under subsection (f), the adequacy of oil spill prevention and contingency plans for the terminal facilities and the

[24] See (o).
[25] 33 U.S.C. § 2732(o).

adequacy of oil spill prevention and contingency plans for crude oil tankers, operating in Prince William Sound or in Cook Inlet;

- Provide advice and recommendations to the Association on port operations, policies and practices;
- Recommend to the Association--
    - standards and stipulations for permits and site-specific regulations intended to minimize the impact of the terminal facilities' and crude oil tankers' operations in the vicinity of the terminal facilities;
    - modifications of terminal facility operations and maintenance intended to minimize the risk and mitigate the impact of terminal facilities, operations in the vicinity of the terminal facilities and to minimize the risk of oil spills;
    - modifications of crude oil tanker operations and maintenance in Prince William Sound and Cook Inlet intended to minimize the risk and mitigate the impact of oil spills; and
    - modifications to the oil spill prevention and contingency plans for terminal facilities and for crude oil tankers in Prince William Sound and Cook Inlet intended to enhance the ability to prevent and respond to an oil spill; and
- Create additional committees of the Council as necessary to carry out the above functions, including a scientific and technical advisory committee to the Prince William Sound Council.[26]
- Scientific work. In carrying out its research, development and monitoring functions, each Council is authorized to conduct its own scientific research and shall review the scientific work undertaken by or on behalf of the terminal operators or crude oil tanker operators as a result of a legal requirement to undertake that work. Each Council shall also review the relevant scientific work undertaken by or on behalf of any government entity relating to the terminal facilities or crude oil tankers. To the extent possible, to avoid unnecessary duplication, each Council shall coordinate its independent scientific work with the scientific work performed by or on behalf of the terminal operators and with the scientific work performed by or on behalf of the operators of the crude oil tankers.[27]

In addition to meeting the statutory goals of OPA 90 RCACs, PWSRCAC is also bound by the duties established in the funding contract with the oil company operating the pipeline and Valdez terminal in Prince William Sound. The contract sets out the following guidelines that govern the scope of work undertaken by PWSRCAC.

- Provide local and regional input, review and monitoring of Alyeska oil spill response prevention plans and capabilities, environmental protection capabilities, and actual and potential environmental impacts of Terminal and tanker operations;

[26] (d)(6).

[27] 33 U.S.C. § 2732 (d)(8).

- Increase public awareness of Alyeska oil spill response and prevention capabilities, environmental protection capabilities, and actual and potential environmental impacts of Terminal and tanker operations;
- Provide input into monitoring and assessing the environmental, social, and economic consequences of any oil related accidents and actual or potential environmental impacts in or near Prince William Sound; provided, that no Alyeska funding shall be used for such monitoring or assessing specifically in support of litigation against Alyeska;
- Provide local and regional input into the design of appropriate mitigation measures for potential consequences likely to occur as a result of oil or environmental related accidents or impacts of Terminal and tanker operations;
- Provide recommendations, to which Alyeska will respond in a timely manner, and participate in: (1) the continuing development of the Plan (2) annual plan review (3) the periodic review of operations under the Plan, including training and conducting exercises (4) the input into selection of research and development projects (5) the review of other important issues related to marine oil spill prevention and response concerns that are not obvious at this time and (6) the review of other concerns agreed upon by the Committee regarding actual or potential environmental impacts of Terminal or tanker operations;
- Fulfill all responsibilities and duties of the citizens advisory committee as set forth in Exhibit A attached hereto, which Alyeska agrees to incorporate in the Plan, and all amendments thereto
- To the extent possible, to avoid unnecessary duplication, the Committee shall coordinate its work with the scientific work performed by or on behalf of Alyeska, operators of crude oil tankers, and government agencies. However, this shall not preclude the Committee from conducting independent work to confirm, verify or test work performed by others.
- The function of the Committee under this Contract is not regulatory but is advisory only

Sullom Voe Association

Oil facility and shipping activities at the oil port of Sullom Voe in the Shetland Islands is overseen by a set of quasi-governmental groups. The Sullom Voe Association (SVA) is a company created by the Shetland Island Council and the two (2) major pipeline groups (Brent and Ninian) that use the Sullom Voe terminal. The SVA consists of a board of four (4) members, two (2) from the SIC and two (2) from the pipeline groups. The SVA has created to entities responsible for monitoring the environment and oil operations at Sullom Voe: the Shetland Oil Terminal Environmental Advisory Group (SOTEAG) and the Sullom Voe Oil Spill Advisory Committee (SVOSAC). These organizations were not directly created by legislation. Instead, parliament passed law in 1974 that gave the predecessor of the SIC authority over the Shetland Islands. In response, the oil companies approached the local authority to create an environmental forum to monitor the Sullom Voe area. This environmental forum became SOTEAG and was charged with examining and advising on the environmental implications of the Sullom Voe terminal.

SOTEAG consists of fifteen (15) members from universities, oil industry, marine interest groups, government agencies, and a birding organization. SOTEAG is an independent and unbiased group that advises, monitors, and reports on the environmental impacts of the oil terminal and shipping operations on Sullom Voe and the surrounding area.

The SVA also created the SVOSAC, which is responsible for providing advice on oil spill containment and recovery. SVOSAC was created to oversee oil spill planning, operations and prevention in the Sullom Voe area.

California Technical Advisory Committee

In 2001, the California Technical Advisory Committee (CA TAC) was created by California Code[28] to provide public input and independent judgment of the actions of the Office of Spill Prevention and Response (OSPR) and the State Interagency Oil Spill Committee (SIOSC).[29] It is comprised of ten (10) volunteer members from marine and science professionals, the general public, and industry.[30] These members have broad discretion to study, comment on, or evaluate any aspect of oil prevention and response.[31] They may also attend oil spill drills and oil spills.[32] The TAC reports to the Governor and Legislature in a biennial report on its findings .[33]

The CA TAC provides recommendations to the State Lands Commission, the California Coastal
Commission, the San Francisco Bay Conservation and Development Commission, and the State Interagency Oil Spill Committee.

San Francisco Harbor Safety Committee

The San Francisco Harbor Safety Committee (SF HSC) is a voluntary organization created by California statute charged with the "planning for the safe navigation and operation of tank ships, tank barges, and other vessels within each harbor."[34] Like the PSHSSC, the SF HSC was created to provide a forum for the interest groups that utilize San Francisco Bay to discuss issues related to improving safe operations.

The SF HSC is required to develop and maintain a harbor safety plan, which "must address:

[28] California Code 8670.54-56.
[29] California Code 8670.54(a).
[30] California Code 8670.54(a).
[31] California Cole 8670.55(b).
[32] California Code 8670.55(c).
[33] California Code 8670.55(d).
[34] California Code 8670.23.

(1) A recommendation determining when tank vessels are required to be accompanied by a tugboat or tugboats, of sufficient size, horsepower, and pull capability while entering, leaving, or navigating in the harbor;
(2) Anchorage designations and sounding checks;
(3) Communications systems;
(4) Small vessel congestion in shipping channels;
(5) Placement and effectiveness of navigational aids, channel design plans, and the traffic and routings from port construction and dredging projects;
(6) Procedures for routing vessels during emergencies that impact navigation;
(7) Bridge management requirements; and
(8) Suggested mechanisms to ensure that the provisions of the plan are fully and regularly enforced."[35]

Pacific State/British Columbia Task Force

The Pacific States/British Columbia Task Force (US/BC Task Force) was formed by a Memorandum of Cooperation between the four (4) west coast states and British Columbia in 1989, with the addition of Hawaii in 2001. The purpose of the US/BC Task Force is to improve oil spill prevention, preparedness and response. The members of the US/BC Task Force are comprised of the heads of the government regulatory oil spill authorities from each member government.

Maine Oil Spill Advisory Council

The Maine Oil Spill Advisory Committee (MOSAC) was created by the Maine Legislature in 1991.[36] The council consists of fourteen (14) members and a chair. It is created of members selected by both interest group and area of expertise. This was apparently done in an attempt to ensure that the council would have the expertise to address the broad array of issues and interests involved in oil spill issues. In addition to the general public, industry and environmental interests, the members include experts in fisheries, coastal wildlife habitat, naval architecture, geology and oil spill technology.

Similar to the Washington Council, MOSAC was charged with a broad range of duties. These include:

- Track implementation of and regulations related to the Federal Oil Pollution Act of 1990 and recommend to the Legislature any statutory changes or to the board any appropriate regulatory changes. Additionally, review contingency plan requirements, opportunities and constraints of the federal Oil Spill Liability Trust Fund and oil spill prevention measures;

[35] California Code 8670.23.1.
[36] 38 MRSA § 551-A.

- Monitor the adequacy of the federal Oil Spill Liability Trust Fund in light of information on the potential risks and costs of an oil spill and the State's exposure and liability under the fund;
- Monitor the effects of the State's oil spill liability laws on oil spill prevention;
- Review expenditures and the priority for expenditures of the Maine Coastal and Inland Surface Oil Clean-up Fund and make recommendations to the commissioner on how the fund shall be allocated;
- Review the commissioner's program for identifying areas sensitive to oil spill in the marine environment and the development of resource protection priorities;
- Review and provide comment on the State's marine oil spill contingency plan;
- Monitor oil spill planning and prevention activities by industry, oil spill response organizations and the United States Coast Guard;
- Monitor the commissioner's assessment of adequate oil spill response equipment and vessels for the State;
- Review the implementation of a plan for rehabilitation of wildlife resources including training programs and opportunities for volunteers and state and federal personnel, and preliminary agreements or identification of treatment centers or facilities;
- Monitor scientific, engineering and technical advances in oil spill response and prevention techniques and make recommendations of their use, and
- Review and monitor issues for oil spill prevention and response and recommend to the Legislature any statutory changes or to the board any regulatory changes that are appropriate.[37]

WA OSAC Priorities and Goals

Created for the purpose of maintaining the state's vigilance in oil spill prevention and improving preparedness and response, the Washington Council has been charged with an expansive list of duties. To effectively carry out these duties, detailed above, and fulfill its mission with limited resources, the Washington Council has adopted a strategy of setting short and long term goals and objectives and an initial list of duties and activities. The Washington Council has identified the following list of goals and objectives as results oriented targets that will maximize impact on prevention, preparedness and response. In pursuit of these goals and objectives, the Washington Council will focus on the implementation priorities presented below.

Selected Goals and Objectives include:

- Present the Legislature with funding options for the oil spill program envisioned by the Council;
- Define and recommend a state-of-the-art oil prevention program that does not reinvent the wheel;
- Explore and make recommendations regarding better prevention and rapid response efforts;
- Fulfill the tracking and advisory role;

[37] 38 MRSA § 551-A.

- Defining and developing partnerships with Tribal governments by working with the Northwest Indian Fisheries Commission; and
- Defining and developing partnerships with organizations, agencies, industry and interest groups.

Proactive Implementation Priorities:

- Review of Rules and Regulations;
- Review of Best Practices and Lessons Learned and provide recommendations;
- Public Outreach and Involvement;
- Participation in Oil Spill Drills and Spill Events; and
- Independent Studies.

Review of Rules and Regulations

By law, the Washington Council is required to review oil spill rules and regulations. Inherent in this duty, is the review of agency operations and a gap analysis on implementation of existing rules. As the Washington Council is comprised of a broad-based constituency representing a number of industry and public sector stakeholders in the oil spill prevention, preparedness and response program, the members have the knowledge to provide valuable input in the development of new rules and regulations. The Washington Council considers this duty one of their most important tasks since they can provide stakeholder input much earlier in the rule making process instead of waiting for public comment. This should reduce the amount of time it takes to develop new rules and regulations and provide a balanced approach to addressing the concerns of all interested parties.

Review of Best Practices and Lessons Learned

The Washington Council is charged with reviewing lessons learned and following up with agency personnel to determine if corrective and preventative measures have been implemented. A corollary duty is to evaluate agency procedures and incident response reports and make recommendations for improvement. Model programs and best practices should also be analyzed when providing recommendations to improve agency response procedures. Engaging in this activity early on will allow council members to educate themselves on oil spill response activities and help improve the oil spill program.

Public Outreach and Education

The Washington Council was created in part for the purpose of increasing public oversight and monitoring the actions of industry and regulatory authority actions under the state's oil spill prevention and response program. In seeking to fulfill this purpose, the legislature explicitly required public involvement in four of the statutory duties. Specifically, the Washington Council must provide information to the public on oil spill programs, seek public comments on measures to improve oil spill programs, providing opportunities for public involvement in response activities, and providing a mechanism

for public consideration of federal actions. Carrying out the statutory duties also necessarily entails conducting outreach to other oil spill groups. To stay abreast of activities, events and concerns in the region, maintain efficiency and reduce the occurrence of unnecessary duplication, the Washington Council should communicate and coordinate with regional groups such as the Pacific States – BC Task Force and the PSHSSC. Maintaining open contacts with other oil spill councils (i.e. PWSRCAC and CIRCAC) will allow an exchange of information regarding current developments and issues in other regions that may inform or impact the actions of the Washington Council.

In addition, the Washington Council should develop a procedure for responding to inquiries from the media. Because the Washington Council is an independent council, it is advisable that it maintains its own public relations program to retain this autonomy. Publicity can be coordinated with Ecology and the Governor's office as appropriate and necessary. The Washington Council will likely draw attention from the media in the event that oil spill related issues arise, or in response to action taken by the Washington Council. The Washington Council, therefore, should make public outreach one of its initial priorities. The public outreach program should address raising public awareness of the existence and function of the Washington Council, information on state oil spill issues, and identification of opportunities for public involvement and participation.

In addition and after careful consideration, the Council proposes to transfer the oil spill prevention education and awareness program from the University of Washington to the Council. Although the University manages a good program, 40% of the money allocated for the program goes straight into the University's administrative fund and does not directly support education. Their coverage is also focused primarily on marinas, leaving a large sector of the stakeholders untouched. Council members have broader access to the various stakeholders and can provide greater coverage than one individual working for the University. An option is to transfer the University education and outreach person to the council staff so as to retain the experience while expanding the reach of the program.

Participation in Oil Spill Drills and Spill Events

Along with review of lessons learned and relevant rules and regulations, participation in oil spill drills is another area where council members can provide valuable support. The Washington Council is not staffed, trained, or funded to manage an oil spill response. It can, however, provide critical observation of response efforts and make recommendations for improvement. Participation in oil spill drills and events will provide council members with hands on familiarity with oil spill procedures. This will allow the council members to be better informed of the realities and problems associated with responding to oil spills in various conditions and inform council and committee members of their experiences. Involvement in spill response will lend depth to recommendations for improvement and lessons learned. Additionally, the Washington Council can improve communications with its member constituents about oil spill response, which will help reduce public concerns in many instances. The Washington Council's involvement in the oil spill response process should improve the Unified Command's ability to conduct a more effective response.

Independent Studies

One of the duties of the Washington Council is to provide independent advice, expertise, research, monitoring, and assessment.[38] As demonstrated by other councils and committees, independent studies of important issues is critical for developing a state-of-the-art oil spill prevention and response program and moving toward the goal of having zero spills within the state. The Council expects to conduct 2-4 independent studies per year as staffing and funding allow. These studies will be assigned to the Council's members and staff within the framework of subcommittees and technical advisory committees or contracted to appropriate consultants if the members and staff do not have the necessary time or expertise.

Some of the initial studies identified by the Washington Council are aimed at:

- Examining the boundaries of state jurisdiction and possible areas that Washington State can implement additional regulations;
- Analyzing the current Geographic Response Plan (GRP) process for ways to improve and enhance this system, which includes increasing access and availability of habitat information, improving the creation and update of GRPs, and the creation of a local first response program;
- Reviewing current State and federal oil spill prevention, planning and response laws, regulations, and programs to identify gaps, unnecessary duplication and redundancies, and areas for improvement;
- Analyzing of potential federal funding sources to support regional oil spill prevention and response efforts;
- Examining oil spill recovery techniques and technologies and how they could be used to improve oil spill response in Washington waters;
- Evaluating the capacity of Washington resources to respond to a major oil spill;
- Evaluate and make recommendations on improving recovery techniques and procedures; and
- Investigating of the benefit and use of escort and rescue tugs.

Committees

The following section presents the committee structure of the Washington Council along with a proposed set of standing committees that were identified based on the statutory duties of the Council. For a point of reference, the committees of other councils are also presented below. Figure 1 presents an overview of the WOSAC organizational structure.

WA OSAC

[38] RCW 90.56.130(1)(c).

Due to the range of issues surrounding oil spill prevention, preparedness and response, the Washington Council has adopted an organizational structure consisting of a series of committees, subcommittees and technical advisory committees to address general and specific oil spill issues. The full Council convenes on a quarterly basis to review information and recommendations provided to it by Council staff and committees. The Council Chair facilitates discussion and deliberation among Council members to provide staff and the committees with direction and guidance on an annual and quarterly basis. During the quarterly meetings, progress on issues is assessed and reevaluated as required.

The Washington Council committees were created to focus on specific areas vital to fulfilling the Council's statutory duties. These standing committees include the:

- Executive Committee;
- Prevention Committee;
- Preparedness and Response Committee;
- Restoration, Remediation and Recovery Committee; and the
- Public Outreach and Education Committee.

A description of the function of each of these committees is presented below. To carry out their charge, each committee has the authority to create standing or temporary subcommittees and technical advisory committees (TACs). In general, subcommittees are subgroups of the standing committee members placed in charge of researching and investigating a specific topic or issue. Technical advisory committees are panels comprised of experts in a given field convened to advise a committee in an area of special interest. These subcommittees and TACs report back to their respective committees, which in turn provide information to the full Washington Council or Executive Committee so that further action may be taken.

With the exception of the Executive Committee, the committees, subcommittees and TACs are comprised of Council members and volunteers that meet on a frequent basis to conduct research into general and specific issues to educate the Council on topics of concern and provide the Washington Council with recommendations at the quarterly Council meetings. An organizational chart is provided below.

Executive Committee

The Executive Committee (EC) is comprised of a sub-panel of Council members that meet in between the quarterly Council meetings. The EC is charged with overseeing the activities of other committees, budgets and Council staff to ensure that all necessary issues are being addressed. The EC delegates responsibilities and assignments to the committees, reviews budgets and expenditures. Although the EC is comprised of a subset of Council members, all council members are encouraged to participate.

Prevention Committee

The Prevention Committee studies ways that oil spill risk can be minimized through operations and technology. The committee reviews agency regulations, guidance and procedures to identify oil spill prevention gaps. The committee also reviews effluent standards, guidelines and limits and NPDES permits. Areas of interest include improving use of shipping lanes, tracking shipping activity, and monitoring accident reports and spill incidents to identify problem areas and provide recommendations for resolving them. The Prevention Committee maintains up-to-date knowledge of current and emerging prevention technologies and procedures and provides recommendations for improvement.

Two subgroups exist under the Prevention Committee: the Tugs TAC and the Federal Funding TAC. The Tugs TAC will continue to function indefinitely, while the Federal Funding TAC is scheduled to complete its investigation by February 2007.

Federal Oil Spill Prevention Program Gap Analysis TAC

This TAC is charged with identifying federal legal and regulatory requirements that are either not being implemented due to lack of funding or that are being carried out by the state, as well as gaps in spill prevention due to inadequate funding or court precedent.

Tugs TAC

This committee studies escort and rescue tug issues, with a focus on cost-effective placement of rescue tugs in strategic locations and ensuring continual funding of the Neah Bay rescue tug.

Preparedness and Response Committee

The Preparedness and Response Committee (PRC) is focused on ensuring that adequate resources, communication systems, response and containment procedures, and technology are available to respond in the event of an oil spill. This includes maintaining an up-to-date information database on areas of ecological and social importance that are to be protected at a priority from a release of oil. The committee reviews federal and state agency rules, regulations and procedures, best practices, and current and emerging technologies to provide recommendations to the Council on ways to improve oil spill preparedness. Committee members participate in oil spill drills to gain a better understanding of the current response system, and identify potential or actual areas that need improvement. The RPC is also charged with reviewing contingency plans for ships and facilities.

Under the PRC sits the Capacity TAC. This special issue group was convened on a temporary basis and will conclude its investigation as of June 2006. Other subcommittees and technical advisory committees will be created as need arises.

Capacity TAC

This TAC was convened to assess the capacity State and public resources to contain and recover oil and provide wildlife and habitat cleanup throughout Washington waters in response to a catastrophic oil spill.

Restoration, Remediation and Recovery Committee

The Restoration, Remediation and Recovery Committee (RRC) is tasked with addressing social and ecological impacts that persist in the aftermath of an oil spill. The RRC provides the Council with recommendations on how natural resource damage assessment should be conducted and reviews techniques for restoring and remediating shoreline and subtidal habitat and populations to pre-oil spill conditions. The RRC is responsible for reviewing state and federal agency restoration, remediation and recovery plans and activities and providing recommendations where improvement is needed.

Derelict Vessel TAC

This committee investigated derelict vessel issues in Washington waters. At issue was identifying the breadth of the current problem, the amount of funds and resources to address the problem, and identification of funding sources. The Washington Council will provide a recommendation on this issue to the Washington State Legislature and the Washington Department of Ecology on the TACs findings. This TAC completed its review in May of 2006.

Outreach and Education Committee

In conjunction with the other Council committees, the Outreach and Education Committee (OEC) works to inform and educate the public and member organizations on oil spill issues. Through increasing public awareness of the existence of the Washington Council, Council activities, and ways that the public can become involved in oil spill issues, the OEC seeks to enhance transparency of the regulatory system and facilitate communication between the public, industry, and government agencies.

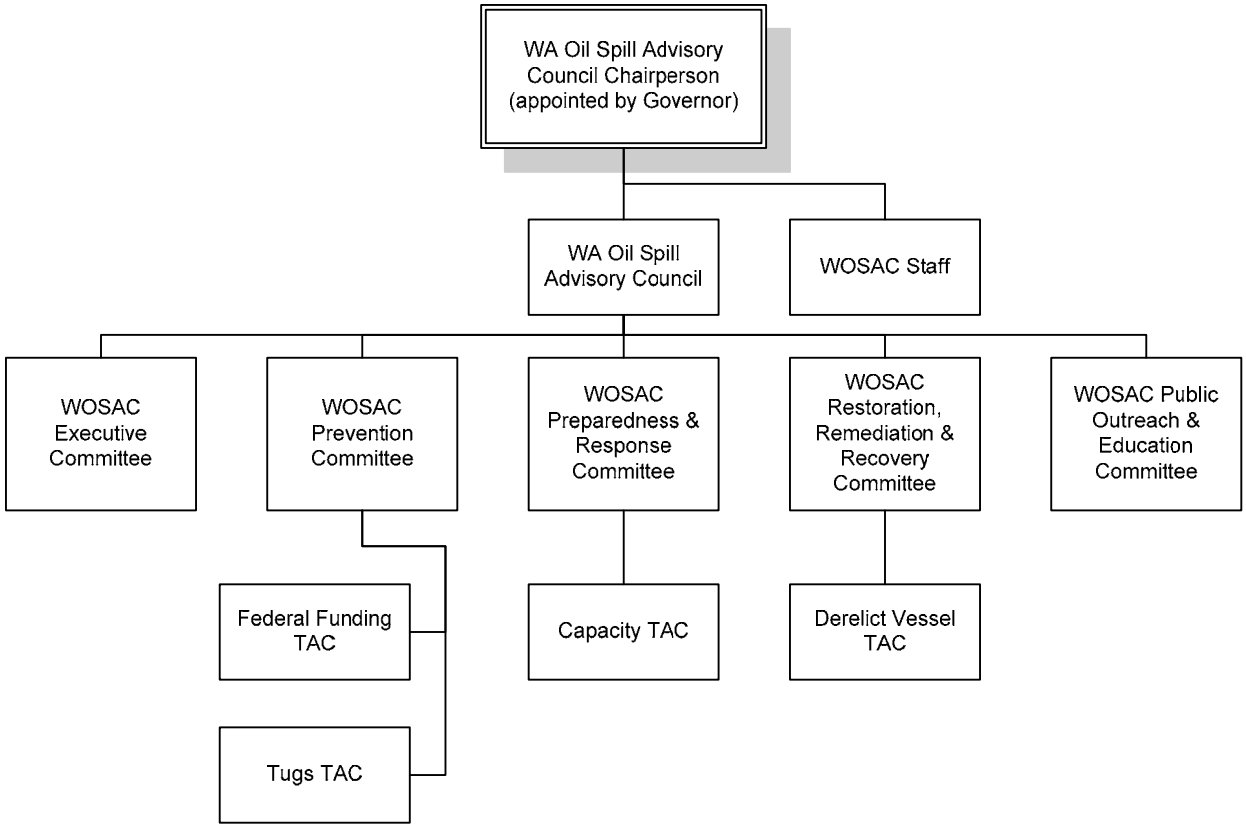


Figure 1 – Washington Oil Spill Advisory Council Organizational Structure

Other Councils and Committees

The basic structure of the two RCACs is similar. Each is comprised of a board of members from communities, cities and interest groups identified by statute. Each board meets several times per year to review reports and information from a set of standing committees that address specific oil spill related matters. The standing committees are comprised of board members and volunteers from the member groups and interested citizens. The standing committees create subcommittees and workgroups on an as needed basis. The standing committees report back to the councils to assist in the development of annual and long-term strategic goals. The council then in turn gives direction and approves the operations and budget of the RCAC staff and programs.

PWSRCAC maintains the following committees:

- Oil Spill Prevention and Response Committee
- Port Operations and Vessel Traffic Systems Committee
- Terminal Operations and Environmental Monitoring Committee
- Scientific Advisory Committee
- Legislative Affairs Committee

- Finance Committee
- Executive Committee

CIRCAC, has a smaller committee structure consisting of the following.

- Prevention, Response, Operations and Safety Committee
- Protocol Control Committee
- Environmental Monitoring Committee

The SF HSC also maintains a set of workgroups that focus on specific issues and report back to the larger SF HSC. Some of the current and former workgroups include:

- Navigation Workgroup;
- Underwater Rocks Workgroup;
- Human Factors Workgroup;
- Prevention Through People Workgroup;
- Ports Workgroup;
- Tug Escort Workgroup;
- Ferry Operations Workgroup.

SOTEAG also maintains two standing committees to address continuing issues: the Environmental Monitoring Committee (EMC) and the Wildlife Response Committee. During its operation, MOSAC maintained a legislative committee and a research committee. The other councils and committees examined do not maintain subgroups, such as SVOSAC, or convene subgroups on an as needed basis.

Agency and Organization Communications

In carrying out its functions, the Washington Council and staff will need to maintain communications and relations with a number of agencies and organizations in Washington and other states. A preliminary list of these groups is presented below.

WA OSAC

- Commercial fisheries
- Commercial shellfish fisheries
- Environmental organizations
- Island Oil Spill Association
- Local governments
- Major oil facilities
- Marine tourism and recreational interests
- Marine and labor interests and pilots
- Northwest Area Committee
- Northwest Straits Commission
- Public Ports
- Puget Sound Action Team
- Puget Sound Harbor Safety Committee
- Puget Sound Partnership
- Tribal governments and the Northwest Indian Fisheries Council
- United States Coast Guard
- United States EPA
- United States Navy
- Washington Department of Ecology
- Washington Department of Fish and

- Pacific States / British Columbia Oil Spill Task Force
- Wildlife
- Washington Department of Natural Resources
- Washington Ocean Policy Working Group

Other Councils and Committees

Depending on the level of involvement and independent activities engaged in, the other council and committees examined communicate with a minimum of five (5) to well over thirty (30) other groups and agencies. In general, the lists of groups and agencies for the different councils and committees were similar. The lists include local cities and communities, state and federal government agencies, industries that utilize the marine environment such as oil and dry cargo, and environmental and marine trade interest groups. A representative list of the different organizations can be found in the appendices.

Programs and Projects

Depending on the objectives and structures of the councils and committees reviewed, the designation of programs and projects varied. The sections below present a list of the activities and projects identified by the Washington Council and the other councils and committees. For the Alaska RCACs, which are the only groups examined that have more than one (1) or (2) personnel at their immediate disposal, this report presents only the staff programs created to implement council directives. It is beyond the scope of this report to attempt to present a full report of the projects that the RCACs have undertaken. In the event that the Washington Council elects to employ a staff of more than two (2) personnel, then it may consider to follow a program oriented staff that fits with the Council committee structure like the RCACs have done.

WA OSAC

The Washington Council has identified the following projects, which it seeks to carry out in the near future.

- Identify and differentiate between federal spill prevention activities that are required or authorized under law, but are not being effectively performed—both under federal statute and federal regulation;
- Identify spill prevention activities being performed by the State either under an agreement with the federal government, or on its own volition, which the federal government could be, but is not, undertaking itself, and which the federal government does not provide funds to Washington to perform;
- Identify spill prevention gaps that exist as a result of lack of funding or as a result of the United States v. Locke, et al.;
- Identify potential funding sources;

- Identify options for continual funding of the Neah Bay rescue tug at or exceeding present funding limits;
- Study Washington's capacity to respond to a catastrophic oil spill;
- Examine Washington's escort and rescue tug systems and propose recommendations;
- Identify solutions to oil spills from derelict vessels;
- Review current Washington oil spill program and oil spill programs and recommendations in other regions to develop recommendations in support of creating a state-of-the-art oil spill prevention, preparation, response, remediation and recovery program;
- Track and comment on regulatory rulemakings;
- Work with Washington's federal congressional delegation and seek improved state-federal cooperation, increased Coast Guard funding for prevention activities in Washington State, federal delegation to Washington of prevention authority, and assistance with interstate compact discussions with other west coast states;
- Discuss with other west coast states the possibility of entering into interstate compacts for prevention efforts;
- Identify areas in which the Coast Guard and Ecology's efforts are unnecessarily duplicated regarding prevention, readiness, and response. Make recommendations on how these agencies could better complement one another;
- Identify regulations that may be unnecessary and the possibility of removing them;
- Identify and understand the role of tribes, local community organizations, and local first responders within existing response systems, and ensure that those with a role are adequately communicated with and supported;
- Identify technologies that can be used to track how oil spills move and make recommendations on how this information can be incorporated and utilized. Consider funding research and development of new oil spill detection equipment;
- Identify and evaluate methods, resources, and responsibilities for rapid assessment of biological damage and long-term environmental monitoring. Recommend ways to recover natural resource damages;
- Identify necessary improvements to recovery efforts to habitat, wildlife, aquatic resources, and local economies;
- Develop and recommend ways to accelerate the process of accurately and rapidly creating and updating Geographic Response Plans (GRP) for shellfish beds, areas of important wildlife significance and for areas that may be difficult to protect using typical measures;
- Initiate an aggressive and comprehensive effort to identify sensitive resources using scientific and local knowledge;
- Work to ban two- cycle motors from waters of the state;

- Evaluate the effectiveness, and make recommendations to improve the effectiveness of current voluntary measures relating to prevention and rapid response preparedness for oil and cargo vessels;
- Evaluate the creation and implementation of a Local First Response Program that would enhance the GRP program;
- Establish a citizens education program;
- Participate in oil spill drills; and
- Evaluate and provide recommendations on "lessons learned."

Other Councils and Committees

The Alaska RCACs conduct numerous independent studies, projects and activities under a program structure that loosely tracks the councils' committee structures.

RCACs

PWSRCAC Programs	CIRCAC Programs
Oil Spill Prevention and Response Operations	Prevention and Response
Oil Spill Prevention and Response Planning	Risk Assessment
Terminal Operations	Oil Fates & Effects
Maritime Operations	Physical Oceanography
Environmental Monitoring	Environmental Monitoring
Non-indigenous Species	Contingency Planning
Outreach	Outreach
Regulation Permit Monitoring and Review	

Sullom Voe

Unlike the other committees and councils, Sullom Voe has created two separate entities that address environmental information and issues and oil spill activities. SOTEAG is incorporated into the command structure of oil spill response system in Sullom Voe and participates in the annual spill drills. To measure the impacts of oil spills and activities on the ecosystem, SOTEAG maintains long term monitoring projects that survey benthic flora and fauna, sediment chemical concentrations, and shoreline populations. Additional studies and project work is undertaken in the event of an oil spill. SVOSAC reviews and assists in the development of harbor oil spill plans, reviews oil spill technologies and maintains and purchases response equipment for the SVT.

CA TAC

The CA TAC tracks issues under these agencies and receives updates during the CA TAC meetings such as the following:

- California Coastal Commission: Tug Escort Bollard Pull Testing
- California Coastal Commission: Proposed LNG offshore floating terminal

- State Lands Commission: Marine Oil Terminal Engineering and Maintenance Standard
- State Lands Commission: Liquefied Natural Gas Terminal Engineering and Maintenance Standards
- SF HSC Committee Reports
- Pending Legislation
- California Air Resources Board Regulation for Auxiliary
- Diesel Engines on Ocean-Going Vessels
- Pending OSPR Regulations
- OSPR Drills and Exercises
- OSPR budget
- OSPR Scientific Study and Evaluation Program
- OSPR Inland Pollution Program funding and civil penalties issues
- Recommendations on how excess funding in the oil spill account should be spent

SF HSC

The information available on programs undertaken by the SF HSC is aimed at improving safe use of the harbor waterways. A campaign was recently undertaken by the SF HSC to raise awareness of among recreational users such as kayakers to stay alert and avoid vessels using the harbor.

Participants and oil companies in the United States describe the SF HSC as being highly successful in achieving its goal of increased safety in the harbor. There is no public outreach component of the SF HSC activities beyond the minimal website and possible public notices of upcoming meetings. No campaign exists to inform the public of participation opportunities or the purpose of the SF HSC.

US/BC Task Force

The US/BC Task Force has addressed a series of issues since it was created in 1989. The coordinating committees, with consist of the respective program managers from the member government agencies, are able to provide insight into the target issues. The agencies also have access to additional agency resources and personnel to support the US/BC Task Force's activities. Issues addressed include:

- Protocols for the Care of Oil-Affected Marine Mammals
- Protocols for the Care of Oil-Affected Birds
- Evaluation Report and Recommendations on Oiled Wildlife Care Facilities
- Final Report of the Pacific States/British Columbia Oil Spill Task Force
- Alternative Response Technologies In Situ Burning and Dispersants
- Recommendations to Prevent Oil Spills Caused by Human Error
- Marine Pilots and Vessel Safety on the West Coast
- Spill & Incident Reporting Data Collection Dictionary

- Status Review of Alternative Response Technology Policies and Issues
- Integrated Vessel Response Plan Format Guidelines for Tank Vessels
- Integrated Vessel Response Plan Project
- Pipeline Spill Prevention Project
- Oil Spill Response Readiness Roundtable
- Project Summary Report on the Oil Spill Field Operations Guide (FOG) Update Project
- How NRDA Really Works: Industry and Trustee Perspectives
- Oil Spill Research & Development Projects
- 2002 West Coast Offshore Vessel Traffic Risk Management Project
- Best Industry Practices for Vessels and Tank Barges
- West Coast Oil Spill Financial Responsibility Requirements
- Recommended Contingency Plan Elements
- Places of Refuge Project
- Summary Notes of the Cruise Ship Roundtable
- West Coast Oil Transfer Regulations Table
- Roundtable on Spills from Trucks
- Drills and Exercises Project

MOSAC

MOSAC was instrumental in the creation of a $100,000 to $200,000 grant program administered by MOSAC, Maine DEP, and the Maine Sea Grant Program. Issues previously identified by MOSAC for research under this program include spill trajectory and behavior prediction; understanding spill impacts and ecosystem recovery; prevention through understanding human factors related to spill accidents; and evaluation of the economic impact of oil spills on Maine's coastal resources including tourism.

Staffing

WA OSAC

In carrying out its mission and fulfilling the statutory duties, it is recommended that a staff be employed to support the Washington Council. RCW 90.56.130(1)(a) provides the Washington Council with the authority to hire professional staff and consultants. This ability is important as gives the Washington Council authority to obtain the resources necessary to acquire information for decision making purposes and provides a mechanism through which the Washington Council can carry out its directives. Because the Washington legislature left the staffing structure to the discretion of the Washington Council, the Council has the flexibility to modify the support structure to address needs as the council matures.

Support staff can serve the function of providing ready support to Council, committee and subcommittee needs. Although many of the Council members are knowledgeable in the various areas of oil spill prevention, planning and response, additional research will

be necessary to provide accurate and up-to-date knowledge of technical, policy and legal issues. Staff will also increase the capacity of the Council to take on additional projects, without requiring the Council members to invest an undue or impracticable amount of time investigating and running projects themselves. An initial manpower analysis based on the committees, plans and objectives of the council shows that an estimated four (4) full time employees (FTEs) will be required to support the Council and consultants. Based on this preliminary analysis approximately four (4) FTEs will be required to support council operations.

- Support of five (5) standing committees and TACs 1.50 FTE
- Public outreach and Education 1.00 FTE
- Meeting planning and support 0.50 FTE
- Contractor oversight 0.50 FTE
- Agency, industry and organization communications 0.25 FTE
- Budget and financials 0.25 FTE
- Oil spill drill and event participation 0.25 FTE

In addition, it is recommended that an executive director be employed to direct and manage the staff in carrying out the Washington Council's directives. This position will centralize the responsibility of coordinating staff activities and ensuring that the Council's objectives and directives are being met.

Like the other state councils and commissions in Washington, the Washington Oil Spill Advisory Council is charged with addressing an issue that is important to the health and welfare of the citizens and the economy of the state. Table 1 provides a context of the estimated staff requirements for the Washington Council an initial review of sixteen (16) other Washington councils and commissions was conducted. A review of information available through the Access Washington internet site found that council and commission memberships range from three (3) to thirty three (33) board members and are supported by a staff ranging from two (2) to seventeen (17) employees. The ratio of staff to board members averages 60%.

A direct comparison between the Washington Council and the other councils and commissions reviewed is difficult, as directives, duties and objectives vary between the groups. However, a survey of these groups is informative. Seventy-five percent (75%) of the councils and commissions reviewed are staffed at a ratio of 25% or greater. Assuming a conservative ratio of 25%, the Washington Council should staff at a level of approximately 4.75 employees. This number correlates with the initial manpower estimate above with the employee of an Executive Director. Of the councils and commissions selected, 75% have an executive director or manager that directs the staff and day-to-day operations.

Commissions and Councils	Membership	Staff	Member /Staff Ratio
Dairy Product Commission	10	16	1.60
Conservation Commission	10	15	1.50
Energy Facility Site Evaluation Council	6	6	1.00
Arts Commission	23	17	0.74
Fruit Commission	17	12	0.71
Marine Employees' Commission	3	2	0.67
Council on Coordinated Transportation	9	6	0.67
Family Policy Council	14	9	0.64
Beef Commission	9	4	0.44
Council for Prevention of Child Abuse and Neglect	14	6	0.43
Developmental Disabilities Council	33	9	0.27
Barley Commission	8	2	0.25
Commission on Asian Pacific American Affairs	12	2.5	0.21
Commission on Hispanic Affairs	10	2	0.20
Building Code Council	16	3	0.19
Council on Substance Abuse	25	3	0.12

Table 1 – Membership and Staff Summary for Washington Councils and Commissions

Of the other oil spill councils and committees reviewed; the Alaska RCACs and the Maine Oil Spill Advisory Committee are the most similar in purpose and duties to that of the Washington Council. These groups were created specifically to provide increased public involvement and oversight to improve and assure adequate oil spill prevention, preparedness and response. The Alaska RCACs have been acclaimed successes and are actively involved in maintaining vigilance over oil spill issues in their two regions, while MOSAC has been relatively inactive. The difference between Alaska and Maine can be attributed in part to several factors, but it is striking that an independent staff does not support MOSAC. Unlike the RCACs, the Maine committee was not given independence from the state regulatory agency. Without a support staff, MOSAC relies heavily on support from the Maine DEP, which provides a portion of a staff person for meeting and research support. Additionally, because the committee members are volunteers it is difficult to find members that are able to devote the time and resources necessary to carry out the many statutory duties.

In contrast, the Alaska RCACs are engaged in local oil spill issues and research, and contribute to the improvement of prevention, preparation and response activities. They also produce information and products that support agency efforts. For instance, CIRCAC created a tool that streamlines the state response permitting system and provides for more efficient and timely response to oil spills. Their level of involvement is related to the fact that both RCACs maintain a small, dedicated staff with experience in oil spill prevention and preparedness. This independent staff provides a continual focus on the pursuit of achieving the council's objectives and directives.

Because of its smaller size, CIRCAC is a more appropriate model than PWSRCAC for purposes of structuring the initial staff of the Washington Council. CIRCAC operates on a budget of approximately $1.2 million dollars, which is used to provide salary and overhead for a staff of six (6), operate numerous programs and conduct independent research and other services through outside consultants. Although CIRCAC currently maintains a staff of sixteen (16), it began with a limited staff of two (2) to three (3) professionals that managed a team of contractors to carry out the programs and activities identified by the Council members. It was quickly realized that this structure was untenable. The RCAC staff was too small to manage the contractors on the various projects. Based on similarities of statutory duties, mission, and membership of OSAC and CIRCAC, CIRCAC's staffing structure may serve as a suitable pattern for the Washington Council. The staffing of the other councils and committees reviewed in the preparation of this report are summarized below, including a more detailed presentation of CIRCAC staff positions.

Other Councils and Committees

A review of the staffing requirements of the other councils and committees examined for this report shows that several potential arrangements exist. Two of the most active councils are CIRCAC and PWSRCAC found in Alaska. Supported by a staff of six (6) and sixteen (16) respectively, these councils actively engage in and oversee most all aspects of oil spill management in their respective regions. They operate effective outreach and education programs which staffed by one (1) and two (2) personnel respectively. Council committees are supported by program managers and assistants that oversee projects and consultants, and conduct research. A description of the staff positions for CIRCAC are presented below to provide a more detailed understanding of how the council is supported.

In contrast, the other councils and committees examined are supported by less staff. MOSAC, SVOSAC, SF HSC, and CA TAC are all supported by part-time state agency employees. The Pacific States/BC Task Force and SOTEAG are the only other groups examined that maintain a full time employee. MOSAC is supported by 1/12 to 1/4 FTE; SVOSAC is supported by 1/10 FTE; and CA TAC is supported by approximately 7/12 FTE. In addition to the staff support MOSAC and SOTEAG utilize consultants and CA TAC and the Pacific States/BC Task Force rely upon agency personnel for information and support.

CIRCAC employs a staff of six, who oversee contractors that provide expertise in specific project areas on an as needed basis. This allows the RCAC to maintain a small staff of individuals, with knowledge and experience working in the areas of oil spill prevention and response, that can draw upon a wide array of experts in specific field. A brief description of each of these positions follows.

Executive Director

The Executive Director is delegated certain responsibilities and authority by the Council. This position is charged with carrying out the directives of the Council through CIRCAC

staff. The Executive Director serves as the spokesperson of the Council and keeps the Council and Board apprised of the operations and results of staff activities. The Executive Director is in charge of staffing, salaries, management and finances of CIRCAC. The Executive Director assists the Board with developing the mission and objectives of the Council and provides recommendations to the Board. This position also overseas and approves budgeted expenses and minor non-budgeted expenses; has contracting authority; and recommends contractors to the Board.

Assistant Executive Director

The Assistant Executive Director is in charge of office operations and assists the Executive Director in overseeing the day-to-day operations of CIRCAC. This position works with staff to see that the directives of the Executive Director, Council and Committees are carried out. Office operations include training new staff, maintaining internet operations, maintaining appropriate insurance coverage, compliance with state and federal laws government non-profit entities, maintaining office equipment and supplies and provides purchasing recommendations; and oversees and covers administrative assistant duties. This position also is in charge of the accounting and budgets for CIRCAC Council, Committees, and staff, prepares budget reports, works to improve office efficiency, administers payroll and manages financial information.

Director of Science and Research

The Director of Science and Research serves as the lead scientist for CIRCAC and provides the Council committees with scientific support as needed. This position consults and coordinates with federal, state, and local governments and industry on environmental data acquisition and scientific advances and technology with respect to RCAC concerns; conducts research and provides recommendations to Council and Committees; conducts field work, research and writing as needed or requested; coordinates consultant project work; attends and serves as representative or liaison at seminars, conferences, workshops or meetings.

Director of Operations

The Director of Operations works under the direction of the Executive Director to provide the primary support to the Council. This position conducts research and writing, and provides the necessary information for the PROPS, EMC and Protocol committees; observes and participates in oil spill drills and activities; coordinates with industries, organizations and government agencies; maintains public contacts; keeps Council members informed of committee activities and current issues and technology; assists in oil spill prevention and contingency plan review; coordinates consultant project work; oversees administrative assistants maintenance of Committee reports and materials; and attends and serves as representative or liaison at seminars, conferences, workshops or meetings.

Director of Public Outreach

The Director of Public Outreach is responsible for increasing visibility and awareness of CIRCAC through public outreach and coordinating and facilitating communication and interactions between CIRCAC and its member groups and communities. The duties of this position include: maintaining a presence at community events; presenting and speaking on behalf of CIRCAC; educating the public and member groups about CIRCAC and its activities; engaging staff and volunteers at public events; working with staff to increase volunteer opportunities and public involvement; writing newsletters, press releases, annual reports, and council briefs; oversee web-page content and design; participate in spill drills; staying abreast of all reports and activities conducted by staff and Council; and pursuing public outreach opportunities and funding.

Administrative Assistant

The Administrative Assistant answers directly to the Executive Director and provides administrative support to the Council, Committees, staff and Executive Director. These duties include serving as receptionist, sending and receiving communications, document management, word processing, database management, document production and distribution, meeting support, ordering and maintaining office supplies and equipment, and travel arrangements.

Budget

WOSAC

Table 2 below provides an initial estimate of annual budgetary requirements of the Washington Council, committees, staff and associated programs and projects. It is calculated based on current and projected budgetary requirements along with supporting assumptions. Along with the current estimated budget, an estimated high and low budget range is presented with supporting assumptions

The Washington Council is currently operating on an estimated budget of approximately $240,000 per year. This budget provides the Washington Council with two staff that perform meeting support and limited research and contract management services; overhead; and reimbursement for council member involvement in seven (7) council meetings, meetings for one (1) subcommittee and one (1) TAC; and funding for one (1) independent study conducted by outside consultants. Staff for the Council is temporarily housed in Office of Financial Management office space for free. The burdened expense for staff services is approximately $150,000 per year. The single independent study is being conducted for about $80,000. Overhead for the 2006 fiscal year totals approximately $20,000, which includes line items for supplies and materials, communications, rentals and leases, printing, professional development, and subscriptions.

This budget, however, is low in comparison to the expenditures required to perform the tasks identified in the sections above. In the near future, the OFM will no longer be able

to provide office space for the Washington Council. Additionally, the current staff is inadequate to provide the necessary support. The following budget is an estimate developed from the estimated 2006 fiscal budget accounting for additional annual expenses required for the Washington Council to carry out its statutorily mandated duties. A low and a high range are provided to allow the Washington Council tailor the budget to their needs based on how they decide to structure support services.

Expense Category	Low	High
Support Staff	$ 381,950	$ 512,600
Office Space	$ 16,500	$ 39,000
Overhead	$ 29,400	$ 31,200
Assistant AG	$ 22,800	$ 45,600
Meeting Budget		
Council Meetings	$ 17,000	$ 20,000
Committees (5)	$ 37,000	$ 40,000
TACs (4)	$ 20,000	$ 25,000
Programs		
Public Outreach	$ 60,000	$ 85,000
Independent Studies (2-4)	$ 80,000	$ 160,000
TOTAL	**$ 579,250**	**$ 848,400**

Table 2 – Proposed WOSAC Annual Budget

Support Staff

The Washington Council may chose to provide support services either through directly hiring and maintaining a staff or through outsourcing support to consultants. Either way, based on the projected support needs analysis above, the Council should retain services from between four (4) and five (5) FTEs. The values presented in Table 3 represent a fully burdened salary for personnel to conduct a supervisory role and council interface, council and committee support, public outreach and education, communications, meeting support, finance management, contractor oversight, and administrative duties. The table below presents salary ranges for the FTEs with relevant skills, education, and experience to carry out the identified duties.

Duty	FTE	Low	High
Council & Staff Management	1	$ 106,750	$ 140,000
Project Management, Research, Support, & Communications	2	$ 85,400	$ 110,000
Public Outreach & Education	1	$ 56,400	$ 85,400
Administrative Support	1	$ 48,000	$ 67,200
TOTAL		**$ 381,950**	**$ 512,600**

Table 3 – Functional Requirements with FTE and Cost Ranges

Office Space

Office Space is calculated based on an annual cost of $\$26/ft^2$ for 1,500 ft^2 of office space. For a staff of four (4) to six (6) FTEs, it is estimated that 1,000 ft^2 to 1,500 ft^2 of office space will be required. The budget is based on 1,500 ft^2 as a conservative estimate to account for office space availability and lost useable space due to floor plan design. Utilities are not factored into this cost. In the event that office space can be located in a government building office space charges can be substantially reduced. The Washington Council is currently utilizing office space priced at $\$11/ft^2$, which includes utilities. No state government office space is available at this time.

Overhead

The original overhead budget prepared by the Office of Financial Management (OFM) is presented below in Table 4 along with an estimate calculated for the FTE requirements identified above. This figure includes supplies and materials, communications, rentals and leases, professional development and subscriptions. The OFM estimate is based on two (2) FTEs while the higher amount is based on the estimated 5 FTEs needed to provide adequate Council support.

Office utilities are included in the price per square foot for office space in government facilities. Alternatively, utilities including electricity, water, sewage and heat for non-government facility office space is estimated by the OFM to be $150/month. Supplies and materials are estimated at $500/FTE year. Communications are estimated at $100/month FTE to provide office phone access, cell phone, or other communications devices. Rentals, leases and equipment includes printers, copiers and other miscellaneous office equipment. The OFM value is not expected to increase, as the equipment obtained for $9,000 should be sufficient to support five (5) FTEs. Printing encompasses the annual reports, newsletters, brochures, council briefing documents, and other necessary materials. This figure is initially estimated at $5,000 by OFM, but may increase as the Washington Council matures. The professional development category is allocated to continuing education courses and conferences to maintain and build staff knowledge in relevant areas. It is estimated at a value of $1,400 for upper level positions and $1,000 for all other positions. Subscriptions for professional journals and periodicals to keep council members and support up-to-date on current technology and oil spill issues are estimated at $1,500/year. Finally, a miscellaneous expense category is included to cover unexpected costs and meeting facility equipment rentals. Absent from the annual overhead expenses is the initial set-up expense of obtaining office furniture and computers for additional FTEs. A rough estimate of this would be approximately $3,500 per FTE totaling an additional $10,500.

Expense Category	2 FTEs	5 FTEs
Utilities	$ 0	$ 1,800
Supplies and Materials	$ 1,000	$ 2,500
Communications	$ 6,000	$ 6,000
Rentals & Leases	$ 9,000	$ 9,000
Printing	$ 5,000	$ 5,000
Professional Development	$ 2,000	$ 5,400
Subscriptions	$ 1,500	$ 1,500
Miscellaneous	$ 0	$ 3,000
TOTAL	**$ 19,700**	**$ 31,200**

Table 4 – Estimated Annual Overhead Expences

Meeting Budgets

Council, committee and TAC budgets are based on information calculated by Council staff and the OFM. The budget for the Council was calculated based on four meetings at the average cost of the seven (7) meetings scheduled for the first year of operation. During the first year of operation council meetings were budgeted for Seattle, Everett, Olympia, Port Angelas, Vancouver, Lopez Island Harbor and Bellingham. It is assumed that the quarterly council meetings will be held at different interested communities throughout the state. Committee meeting costs are based on travel for eight (8) persons attending seven (7) meetings annually split between Seattle and Olympia totaling $7,500 per committee. The budget for the TACs assumes travel for three (3) persons attending fourteen (14) meetings annually split between Olympia and Seattle with one meeting in Port Angeles. The council member participation on the TACs may vary, however, for budgeting purposes it is assumed that the average participation will be three (3) council members per TAC. The total per TAC is $5,000. These costs are for reimbursement of member expenses and per diem. Volunteers are not reimbursed for participation. The high value includes an additional amount to account for additional council member attendance or additional meetings.

Programs and Projects

The outreach and education project is estimated based on the budgets of the Alaska RCACs and the unique requirements of the Washington Council. The estimated range is between $60,000 to $85,000 per year. The outreach and education programs for CIRCAC and PWSRCAC are supported by approximately $40,000 to $200,000 respectively. Working from these values, the Washington Council has a more expansive area with a higher population than does CIRCAC. Assuming that this will require 50% more in funding to effectively reach the interested communities the low program budget estimate is $60,000. Working down from the PWSRCAC annual program budget, the Washington Council high estimate is $85,000. The PWSRCAC is supported by two FTEs. The PWSRCAC program is also quite sophisticated drawing upon radio

advertisements and relies upon print media. As initially conceived, the Washington Council program will not be this large. One FTE will prepare media releases, respond to media requests, attend community events, and conduct outreach and education through the Council internet site.

Created by Washington statute, a small spill prevention education program is maintained jointly between the Washington Sea Grant program and the Department of Ecology. This position is currently funded at approximately $170,000 per year to conduct outreach and education to commercial fishing vessels, ferries, cruise ships, ports and marinas. Because of this position and the Washington Council share the same goals, it is recommended that this position be transferred to the Washington Council to prevent redundancy and centralize public outreach and education efforts. As this position is created under the Washington Sea Grant program, a legislative amendment will be required.

The Washington Council has identified numerous independent studies that it seeks to conduct. As funding available in a given year will vary, it is important to prioritize this list in order to structure how funds are allocated. Further, the cost of conducting these studies will vary depending on the how the work is structured. If the Washington Council elects to employ a staff, some of the work can be conducted in-house and the cost of a given study will be less than if an outside consultant or contractor performs the work. Other factors also impact the cost of a study. The size and scope of the studies conducted by the Washington Council can easily range from a few thousand dollars to well over $100,000. A project may be short term capable of completion in well under a year, while other may take several years to complete or may be subject to long-term annual work. For this reason, it is difficult to provide an estimate of what an independent study will cost.

Creating estimates for all of the studies identified by the Washington Council to be conducted under multiple scenarios is not practicable. Budget estimates will vary depending on whether the Washington Council conducts the work in-house, through a combination of in-house staff/consultants and outside contractors, or strictly through outside contractors. For budget estimate purposes, the estimated cost of $40,000 is proposed for an average independent study. This estimate is based on budgeting information obtained from the Alaska RCACs, which conduct numerous studies.

PWSRCAC has allocated approximately $1,000,000 to contractor expenses to support thirty-two (32) projects. The costs of the individual projects are expected to range from about $1,000 to $150,000. The average cost of a project is $31,000, with at least two (2) project in the $150,000 range. CIRCAC has less funding available to spend on project work. In one year, CIRCAC allocated about $233,000 for contractor support on twenty-nine (29) projects, averaging about $8,000 per project. Individual costs of projects ranged from the hundreds of dollars to the tens of thousands. The wide range of project costs is attributable to the nature and structure of the project. Some of the less expensive projects are follow-on work from a project started in years past, hiring additional contractors to support staff, or very small or one time research or studies.

With this information in mind, a conservative value of $40,000 was selected. This number is not unrealistic, as the Washington Council has already undertaken one study at approximately $80,000. It is reasonable to assume that, like the Alaska RCACs, the cost of the projects will vary widely between $1,000 and $100,000. It is also probable, that in the first years of the Washington Council, the size and scope of projects may tend to be larger than many of the Alaska RCAC studies currently conducted. The Washington Council will have to budget for the initiation of multiple year projects with front-loaded costs. This estimated value will allow flexibility in conducting a range of studies during a given year. The low and high independent studies assume that two (2) and four (4) studies will be conducted in a given year; however, this estimate is not intended to limit the activities of the Council. For instance, the Council could decide to conduct one study for $80,000 or four (4) studies for $160,000.

Other Councils and Committees

In 2005, PWSRCAC operated on a budget of approximately $3,000,000. Of this budget, 70% is dedicated to program services and the remaining 30% is used to provide general administrative supporting services. A brief summary of the RCAC's cost structure is presented in the Table 5 below.

Cost	**Total**
Staff	$ 1,362,965
Overhead	$ 347,634
Contracting	$ 878,621
Travel	$ 370,810
Legal	$ 59,614
TOTAL	**$ 3,019,644**

Table 5 – Prince William Sound RCAC Annual Budget

CIRCAC operates on an annual budget of approximately $800,000 as depicted in Table 6. The committee budgets comprise approximately 15% of the total operating expenses. The PROPS committee is budgeted at $40,000, the PROTOCOL committee is budgeted at $20,000, and the EMC is budgeted at $65,000.

Cost	Total
Staff	$ 377,500
Overhead	$ 183,800
Contracting	$ 181,500
Travel	$ 70,000
Legal	$ 8,000
TOTAL	**$ 820,800**

Table 6 – Cook Inlet RCAC Annual Budget

SOTEAG has an annual budget of approximately $500,000 that is primarily dedicated to monitoring and project work. The budget fluctuates depending on the monitoring activities identified by the SOTEAG board. The budget for 2006 is approximately $400,000. The SVA may provide additional funding for projects requested by the SVOSAC or the SOTEAG.

SVOSAC does not have an operating budget. Funding is provided by the SVA on an as needed basis to purchase new or replacement oil spill related equipment.

The CA TAC relies heavily on the participation and briefings from the respective state agencies and their personnel. There is no budget for the CA TAC, however, CA TAC members are reimbursed for travel to the meetings and provided a stipend of $100 per day while attending meetings.[39] One administrative support person is provided by OSPR to assist in the scheduling of meetings and limited administrative services for the CA TAC.

SF HSC member participation is primarily funded by the members' interest groups or the individual members themselves. Travel expenses are reimbursable, however, no other funding is provided through the State of California. Although there is no formal budget, a Secretariat is provided by OSPR to assist the SF HSC.

The member governments pay their own way for involvement on the US/BC Task Force. The Task Force members provide funding on a cost-sharing basis for one support contractor, the Task Force Executive Coordinator.

MOSAC has been non-functioning for the past couple of years. This is in part attributed to the lack of funding of MOSAC. MOSAC has had a difficult time locating volunteers that are willing and capable of being actively involved in the committee. The committee has no budget, except for a $55/day stipend. On a limited basis, MOSAC had the ability to retain contractors to support their efforts. A contractor was hired in to address issues related to a major oil spill that occurred in 1996.

Differentiation of the Purpose and Charge of the WA OSAC from the PSHSSC

[39] California Code 8670.54(b).

Established in 1997, the Puget Sound Harbor Safety and Security Committee (PSHSSC) is a non-statutory based organization of marine industry and interest groups that focus on improving marine safety in the Puget Sound and Canadian boundary waters. It is comprised of members from the following groups: the Marine Petroleum industry; the Marine Cargo vessel industry; the Marine passenger vessel industry; the Marine towing industry; the Commercial Fishing Industry; the Puget Sound Pilots; the Public Ports of Puget Sound; a non-profit environmental organization that has a focus on marine resources; a labor organization involved with operation of vessels; a recreational boaters organization; the Washington State Ferries; Native American Tribes; the Public at large; and the Aquaculture industry. In addition, there are non-voting members from the United States Coast Guard (COTP Puget Sound); the United States Navy; the National Oceanographic and Atmospheric Administration; the Washington State Department of Ecology; the U.S. Army Corps of Engineers; the Maritime Administration; the States/British Columbia Task Force; and local government.

These members participate in standing committees that address issues related to Administration, Operations, and Seaport Security. The standing committees oversee subcommittees, workgroups and technical advisory committees and brief the full PSHSSC at meetings that are held every other month. There is no budget for the PSHSSC and the members and volunteers pay their own way. The stated purpose of the PSHSSC is to:

- Provide a forum for identifying, assessing and implementing non-regulatory operational and environmental measures that promote safe and efficient use of Puget Sound.
- Develop concepts to promote marine safety improvement efforts;
- Serve as a resource and education network;
- Act as a resource to government bodies on marine issues;
- Promote goals of marine and environmental safety; and
- Use the focus described above to promote safe, efficient, secure and environmentally sound marine transportation in the Puget Sound region.

This is a non-statutory coalition of interest groups that utilize Puget Sound waters and have a vested interested in improving the safety of day-to-day operations. Unlike the Washington Council, the PSHSSC focuses on the prevention of marine accidents as opposed to the Council's charge of preventing oil spills. The PSHSSC, although it has non-voting participation of federal and state regulatory authorities, it was not created to increase public involvement, awareness, and oversight of the State's regulatory activities.

Outreach and Education

The Washington Council has specifically requested that a detailed analysis be conducted upon the outreach and education programs conducted by the various councils and committees identified in the section above. Due to a lack of funding, priority, and/or direction, the majority of the organizations examined do not maintain a public outreach or education program. Public outreach efforts are generally limited to maintaining a basic Internet site and publishing notice of upcoming meetings. Of the various organizations studied in this report, the outreach and education programs are the strongest for the

RCACs in Alaska. For this reason, only the public outreach programs for the RCACs are relevant for further discussion.

Although the budget and size of the programs differ between the two RCACs, they are generally comprised of the same components: internal and external public relations. Internal public relations include maintaining communications with member entities and their constituents. This is done by traveling throughout their respective regions and providing presentations on the purpose and activities of the RCAC. The RCACs also establish a presence by setting up booths at community and trade events where the staffs distribute brochures, RCAC publications, and paraphernalia with the RCACs logo. PWSRCAC has also sought to increase public recognition through the development of a coloring book, and recently through a poetry contest at the Kodiak Whale Festival. The outreach program also includes the creation and distribution of newsletters. PWSRCAC has two newsletters that they distribute: the Observer newsletter and the Sound Approach e-newsletter. CIRCAC produces one newsletter that is distributed electronically in PDF format. PWSRCAC also produces a series of radio educational pieces that present oil spill issues, testimonials about the PWSRCAC, and profiles of members and volunteers. The PWSRCAC also conducts surveys to gauge the public's perception of how the RCAC, industry, and regulatory authority are performing.

PWSRCAC also is developing an educational component of the outreach program in the form of a DVD that will inform students of educational opportunities leading to careers in oil spill prevention, preparedness and response. The outreach program also allows students to participate on the council as junior members for educational purposes. Currently, CIRCAC makes educational presentations to schools demonstrating new tools and technologies developed by CIRCAC or oil spill response organizations (OSROs). However, educational activities of CIRCAC are limited due to budget and staff limitations.

External media affairs include crafting press releases and responding to information requests from for both radio and print media. Periodically, the RCACs write media releases to address the RCAC's position on current issues or to raise public awareness of important issues.

PWSRCAC employs 2 full-time and 1 half-time public outreach staff that administer an annual budget of approximately $200,000. The full-time positions address internal and external public affairs. The half-time staff person maintains the PWSRCAC internet site. Almost all of the outreach activities are conducted by RCAC staff. Professional services are obtained for the creation of the graphic design and printing of the annual report and the printing of the newsletter.

CIRCAC has one staff member that addresses all public relations. This position administers an annual budget of approximately $40,000. Website development and annual report printing and graphics are conducted by consultants.

LONG-TERM SUSTAINABLE FUNDING

This section of the report discusses the current oil spill program budget, the projected budget based on earlier recommendations in this report, existing funding mechanisms, and recommended funding sources for long-term sustainable funding based on the relative risk profiles for each oil transport and transfer sector. In addition, the report addresses potential economic impacts for oil spills and increased taxes/fees. The budget and funding recommendations include an escalation factor to ensure sustainability.

Washington State Oil Spill Program Budget

There are two distinct parts to the Washington State Spill Prevention, Preparedness and Response (Spill) Program budget: operating and non-operating. Figure 2 shows the Operating Budget by activity, which totals $15,522,000 for the current biennium. This

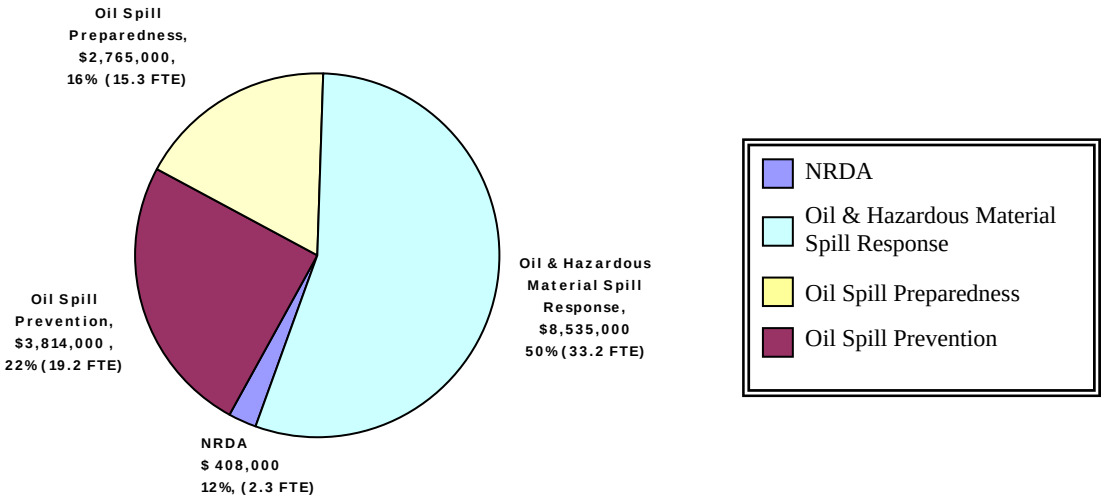


Figure 2 – Oil Spill Program Operating Budget (by activity)
Total = $15,522,000 per Biennium[40]

budget is used to fund day-to-day operations of the Spill Program including salaries and routine overhead costs related to response activities. The budget equates to a total of 70 full-time-equivalents (FTEs) split between prevention, preparedness, response, and

[40] WDOE Spill Program Budget Overview, March 17, 2006

natural resource damage assessment (NRDA). The level of effort for cross program activities; media, education, and technical outreach; and other support activities are also covered under these functional areas.

Figure 3 outlines the Spill Program non-operating budget, which totals $11,709,000 per biennium. This budget is used solely for spill response operations under strict guidelines and does not pay for the routine costs already covered by the operating budget such as staff salaries, even though they may be working on the spill response. Ecology may access the response account only when a spill cleanup will exceed $50,000.

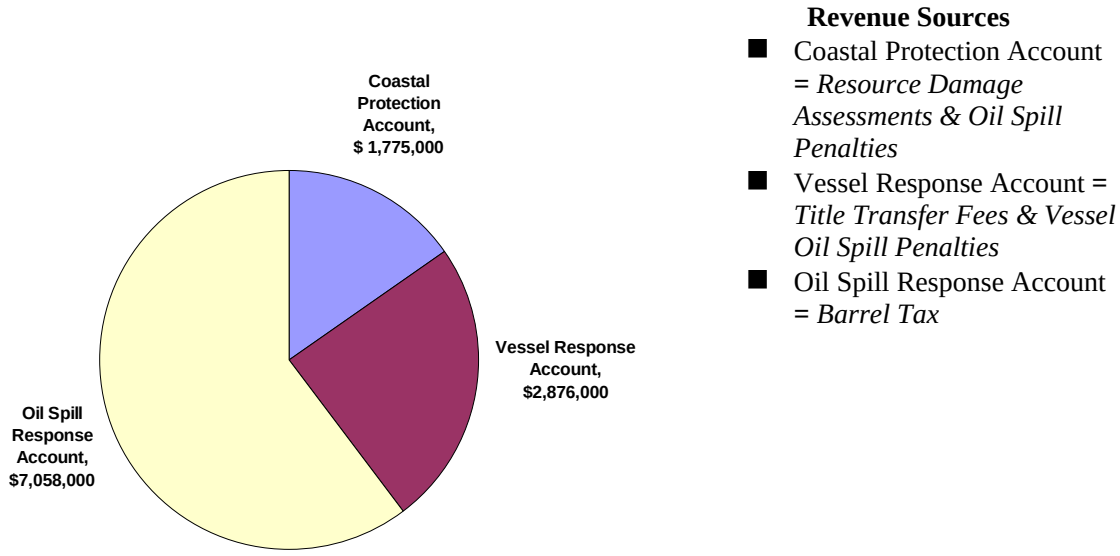


Figure 3 – Oil Spill Program Non-Operating Budget
Total = $11,709,000 per Biennium[41]

Proposed Spill Program Budget

The previous two sections of this report provided a number of recommendations to improve the oil spill prevention program and Oil Spill Advisory Council (OSAC) operations. These recommendations will add reasonable and necessary cost increases to the current budget requirements of over $5,000,000 per biennium. In addition, the proposal to conduct a one-time clean up derelict vessels adds $4,000,000 to the budget for the 2007-2009 and 2009-2011 Biennium. Both the derelict vessels cleanup funding and the proposed increase in the OSAC budget will have to be considered in the 2007-2009 Biennium appropriations. Table 7 represents the total proposed Spill Program budget through the 2011-2013 Biennium. Maintaining a sustainable program requires the

[41] WDOE Spill Program Budget Overview, March 17, 2006

inclusion of an inflation factor. The proposed budget uses the current federally projected in inflation rate of 2.2% per year or 4.4% per biennium.[42] The biannual budget therefore ranges from a current level of $12,601,000 to a high of $19,057,802 in the 2009-2011 Biennium.

Appropriations	2005-07 Biennium	2007-09 Biennium (Estimate)**	2009-11 Biennium (Estimate)**	2011-13 Biennium (Estimate)**
Dept. of Revenue	$14,000	$14,000	$14,616	$15,259
Fish & Wildlife	$1,040,000	$1,040,000	$1,085,760	$1,133,533
Ecology *	$10,219,000	$10,219,000	$10,668,636	$11,138,056
Ecology Supplemental for 6 Transfer/ Facility/ Vessel Inspectors	$820,000	$1,204,800	$1,257,811	$1,313,155
Ecology Supplemental for Advisory Council Liaison		$200,800	$209,635	$218,859
Ecology Supplemental for 6 Non-tank Vessel Contingency Plan Reviewers		$1,204,800	$1,257,811	$1,313,155
Ecology Supplemental for Port Angeles Response Team***		$200,800	$209,635	$218,859
Ecology Supplemental for 2 Policy Development Specialists		$401,600	$419,270	$437,718
Governor's Office/Advisory Council	$508,000	$1,768,800	$1,846,627	$1,927,879
Derelict Vessel Cleanup		$2,000,000	$2,088,000	
Total	**$12,601,000**	**$18,254,600**	**$19,057,802**	**$17,716,474**

* Includes funding for Governor Locke's Oil Spill Task Force recommendations and $ 170,000 grant to UW

** Includes a 4.4% inflation rate per biennium to promote sustainability

*** - Second of two positions for Port Angeles Response Team

Table 7 – Oil Spill Program Proposed Operating Budget

[42] U.S. Office of Management and Budget, Circular A-94, Appendix C, January 18, 2006

Existing Spill Program Funding:

The current funding sources for the spill program include Resource Damage Assessments, Oil Spill Penalties, Title Transfer Fees, Vessel Oil Spill Penalties, Barrel Tax, and the Hazardous Substance Tax as depicted previously in Figure 3 and in Figure 4 below. An overview of these funding sources is provided in this section as a precursor to later recommendations to modify some of these funding sources.

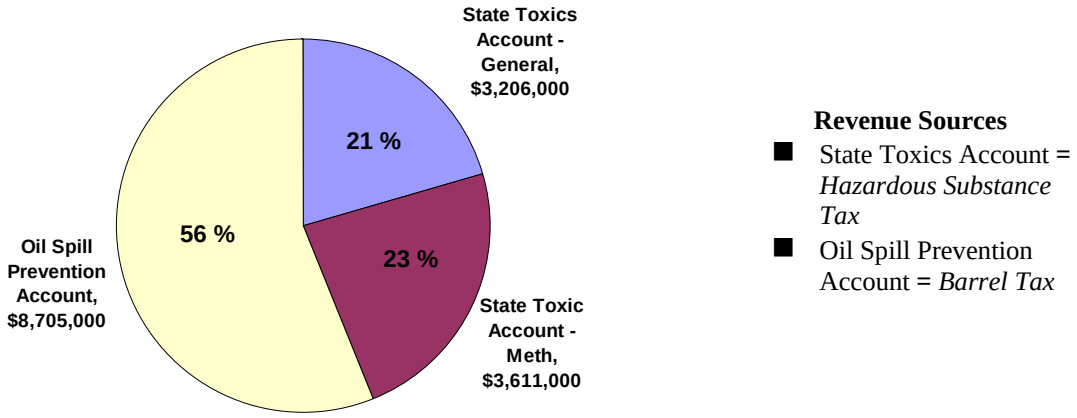


Figure 4 – Oil Spill Program Operating Budget (by fund source)
Total = $15,522,000 per Biennium[43]

Barrel Tax and Export Credits/Refunds

The majority of the funding for the Washington Spill Program comes from the five cents per barrel tax on "first entry" crude oil and petroleum product into the State from a waterborne vessel or barge.[44] Oil and petroleum products entering through pipelines are currently excluded from this tax. This tax is levied in two parts consisting of a four cents per barrel tax that funds the Oil Spill Prevention Account (operating budget) and a one cent per barrel tax that funds the Oil Spill Response Account (non-operating budget). The one cent tax is capped at $9 million. When the account falls below $8.2 million, the one cent tax is collected until the fund again reaches $9 million. This portion of the tax has

[43] WDOE Spill Program Budget Overview, March 17, 2006
[44] RCW 82.23B.020

not been collected over the last two years. Subsequent transportation of crude oil and petroleum products within the state are exempt from the tax.[45]

The barrel tax is based on volume of oil entering the state on marine vessels. The value of the oil plays no role in the tax formula. Obviously, when oil was priced at $11.00 a barrel in the 1990s, a five cent per barrel tax made more of an impact than when oil is priced at $65.00 to $72.00 a barrel as it has been in the last few years.

Gross revenues from this tax during calendar year (CY) 2004 and 2005 equaled approximately $7.5 million per year. These revenues were reduced, however, by allowable refunds or credits. Refunds or credits are allowed for direct consumption of oil or products and for the use of the oil or product in the manufacture of another non-fuel item.[46] Credits are also allowed against the taxes for oil or petroleum products subsequently exported or sold for export from the state.[47] Tax refunds between fiscal year (FY) 1998 and FY 2005 averaged $830,000 per year. Export credits for CY 2004 and CY 2005 equaled about $2.5M per year. The net oil spill prevention account funding averages between $4.0 million and $5.0 million per year.[48]

The export credit and refund issues associated with the barrel tax pose difficult problems in maintaining Oil Spill Prevention Account revenue sufficiency and stability. The theory in structuring the export credit portion of the tax was to ensure that oil leaving the state was competitive with oil entering other states that do not impose a tax. The export credit erodes the tax's revenue below forecasted levels and often fails to fund the level of appropriations approved by the legislature. As mentioned above, when the response account reaches $9.0 million, the barrel tax falls to four cents, while refunds and credits continue at the full five cents per barrel whether or not the incoming oil was taxed. Recall that oil and petroleum products entering through pipelines are exempt.

The refund issue is similarly difficult to manage because it not only further decreases funding below appropriated levels, but does so with little or no notice. This feature of the barrel tax, coupled with application of the tax on a variable volume, significantly increases the difficulty of planning, implementing and maintaining an effective and efficient long term funding program. Credits and refunds more predictable now, but fluctuations are still difficult to manage and maintain consistent program funding. As a result of the existing barrel tax formula, the Oil Spill Prevention Account is projected to go negative during the 2011-2013 Biennium.[49] With additional requirements for contingency plan reviewers, a liaison to the Oil Spill Advisory Council, extra response personnel in Port Angeles, and policy support, the Account could go negative as soon as the 2007-2009 biennium without additional funding support. This trend is projected in Figure 5 and Table 8 below.

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[45] RCW 82.23B.030
[46] RCW 82.23B.040
[47] RCW 82.23B.040
[48] Washington State Department of Revenue/Washington State Department of Ecology Interviews, May 2006
[49] WDOE Spill Program Budget Overview, March 17, 2006

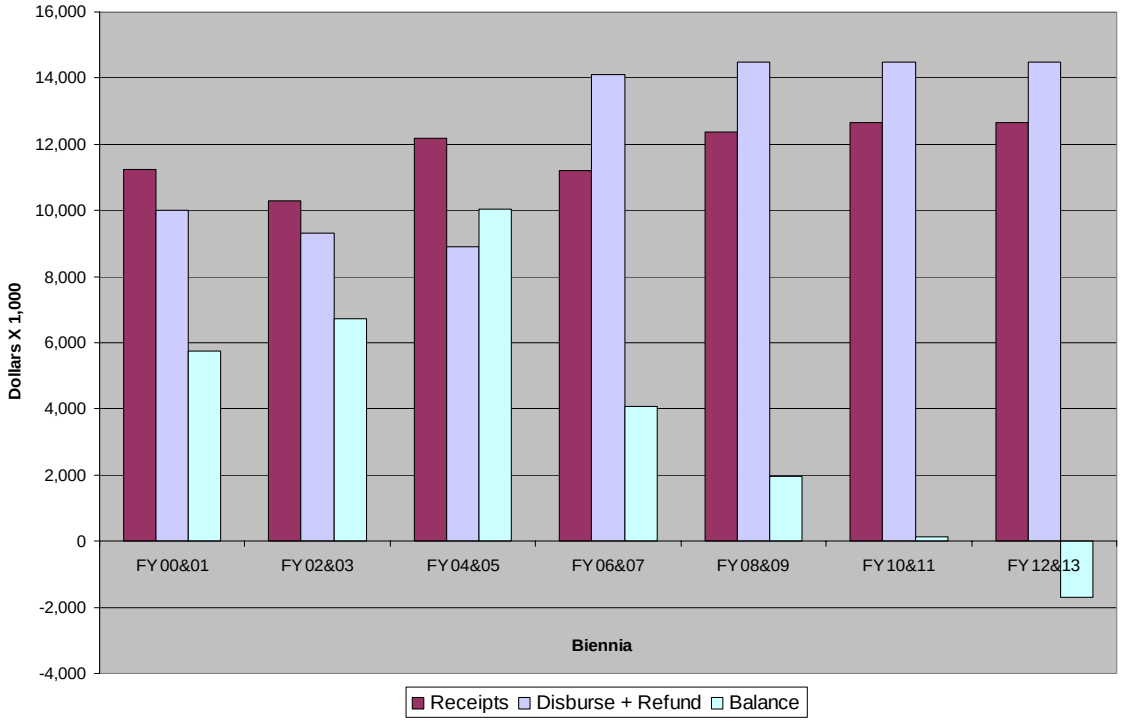

Figure 5 – Oil Spill Prevention Account Sustainability[50]

Figure 5 clearly demonstrates the declining balance in the Oil Spill Prevention Account over the next four biennium at current budget and tax rates. Table XX details the projected funding shortfall with the projected budgets and appropriations. Legislative action is necessary to resolve this negative trend and maintain a viable program.

[50] WDOE Spill Program Budget Overview, March 17, 2006

	2005-07 Biennium (Estimate)	2007-09 Biennium (Estimate)	2009-11 Biennium (Estimate)	2011-13 Biennium (Estimate)
Beginning Balance	**$6,982,071**	**$4,091,409**	**($3,305,191)**	**($9,114,993)**
Revenue				
Dept of Revenue Forecast as of 2/2006	$11,210,338	$12,358,000	$12,660,000	$12,660,000
Total Balance + Revenue	**$18,192,409**	**$16,449,409**	**$9,354,809**	**$3,545,007**
Appropriations**	$12,601,000	$18,254,600	$16,969,802	$17,716,474
Refund Estimates***	$1,500,000	$1,500,000	$1,500,000	$1,500,000
Ending Balance	**$4,091,409**	**($3,305,191)**	**($9,114,993)**	**($15,671,467)**

Includes funding for Governor Locke's Oil Spill Task Force recommendations and $ 170,000 grant to UW
** From Table XX
*** Large tax refund can be issued from this account at any time

Table 8 – Oil Spill Prevention Account Forcast
Revenue and Appropriations – All Agencies[51]

Hazardous Substance Tax

The State Toxics Control Account (operating budget) is funded through a tax on industries handling, processing, storing, managing, manufacturing, selling and/or transporting hazardous substances.[52] As with the barrel tax, this tax also has exemptions[53] and credits[54] This funding source, for the 2005-2007 Biennium, totals approximately $6.6 million. As noted in Figure XX, roughly 50% of the tax is currently used to cleanup methamphetamine drug labs. Appropriations of the State Toxics Account were split with $3.2 million allotted for general spill response and $3.4 million allotted for drug lab cleanup.[55] With a recent reduction in drug lab activity additional funding has become available for the general spill response operating budget. In 2005, the Legislature removed the "meth" proviso to allow expenditure of tax funds in excess of that which is required for drug lab cleanup to be utilized for other hazardous substance program purposes. However, funding levels may be difficult to project from year to year if drug lab cleanup requirements fluctuate.

Natural Resource Damage Assessments and Oil Spill Penalties

[51] WDOE Spill Program Budget Overview, March 17, 2006, data adjusted
[52] RCW 70.105D.070
[53] RCW 82.21.040
[54] RCW 82.21.050
[55] WDOE Spill Program Budget Overview, March 17, 2006

Resource damage assessments and a portion of oil spill penalties are used to fund the Coastal Protection Account (non-operating budget).[56]The Coastal Protection Account for the 2005-2007 Biennium totals $1,775,000.[57] Funding from the account is restricted to environmental restoration and special research projects. The account cannot fund state agency staff positions (FTE). Funding levels are uncertain depending on the number and extent of spills and related damages.

Title Transfer Fees and Vessel Oil Spill Penalties

A percentage of vehicle title transfer fees and a portion of vessel oil spill penalties fund the Vessel Response Account.[58] The Vessel Response Account for the 05-07 Biennium totals $2,876,000.[59] Funding from the account is restricted to preposition a dedicated rescue tug at the entrance of the Strait of Juan de Fuca for oil spill prevention and response. The account cannot fund state agency staff positions (FTE). As previously discussed in the Tug TAC section of this report, the title transfer funding portion expires in 2008 and must be renewed or replaced with other funding sources.

Miscellaneous Taxes and Fees

There are two other taxes and fees that support the spill program. According to maritime sources, cargo vessels pay a bunker fuel consumption tax that is based on miles traveled in Washington State waters. (Note: Trying to obtain more information on this tax.) Additionally, $2.00 out of every recreational vessel registration fee is used to pay for removal, restoration, clean up etc of derelict vessels and any oil or fuel contained on them (see Derelict Vessel TAC section earlier in this report).

Recommended Sustainable Funding Sources

Long-term sustainable funding of the spill program is necessary if Washington State intends to further reduce/eliminate oil spills from state waters. Providing sustainable funding can be approached from two directions. The first and probably the most direct is to levy a tax on crude oil and petroleum products as they enter the state that is sufficient to fund all requirements. This type of tax relies on the trickle-down effect to remind those who transport and/or use oil and products within the state that they may cause substantial harm to the environment if they cause a spill. The current barrel tax is an example of this type of funding source and is probably the easiest to manage.

The second approach to sustainable funding is to levy taxes and fees based on relative risk across the spectrum of oil/petroleum transporters and users who could cause spills to the waters of the state. This approach requires a determination of potential risk and actual

[56] RCW 90.48.390, RCW 90.56 series, RCW 82.36.330
[57] WDOE Spill Program Budget Overview, March 17, 2006
[58] RCW 90.56.335
[59] WDOE Spill Program Budget Overview, March 17, 2006

past performance to allocate the taxes and fees on a prorated basis. The advantage of this type of funding is that it creates a direct reminder to the potential spiller of their responsibility to prevent oil spills.

The WOSAC recommends a combination of these two funding approaches to provide sustainable revenue sources for the spill program. The following sections present details on over $20 million in potential funding sources that the State can use to fund the spill program.

Elements Considered

This report considered many possible sources for funding the spill program including the spectrum of potential spillers (tankers, cargo vessels, cruise lines, recreational boats, ferries, pipelines, tank trucks, airplanes, etc.) and those who would suffer most from spills within the navigable waters of the state (coastal tourism, aquiculture businesses, etc.). Through careful analysis and debate we narrowed the list of sources to those that potentially have the most cost benefit by evaluating them against a set of factors. These factors determine the relative viability of a source of revenue and include:

- Revenue Sufficiency
- Revenue Stability
- Legislation Requirements
- Collection Ease
- Legal Issues
- Political Support

Methodology

An oil spill program that is largely built on three components: prevention, preparedness and response, which can best be understood from the perspective of risk avoidance. The risk-based theory of avoidance requires that many join forces in providing the resources to mount a sustained effective prevention, preparedness and response program. Those that are at risk of spilling, as well as those that are at risk from a spill were evaluated in this funding analysis to participate in their share of the risk for an oil spill prevention program. We have evaluated risk in two-ways – 1) the risk associated with a worst-case discharge; and 2) historical risk from past spills.

Where available, worst-case discharges are taken from a 2001 Department of Ecology report on discharge scenarios.[60] Where unavailable, worst-case discharge information

[60] Etkin, Dagmar S., September 2001. "Analysis of Washington State Vessel and Facility Oil Discharge Scenarios For Contingency Planning Standards." Prepared for Washington Department of Ecology Spills Program.

was based on personal communications with Ecology Spill Program staff members and information gathered through other direct research.

Historical spill risk is based on information from Ecology's Spill Database. Ecology provided data on all spills from 1998-2005. Each spill was categorized by sources (e.g., tankers, cargo vessels, motor vehicles, marinas, etc.) Total number of spills for each source considered was calculated. Ecology's database also contains data regarding spill volumes. Total volume was calculated using only those spills for which volumes were calculated in gallons. Thus, spills with volumes calculated in cups, sheens, containers, etc. were not included in calculation of total volume. The risk chart on the following page lists the number of spills that were used to calculate total volume for each source.

In order to compare risk across categories, we employed a methodology to convert spill volumes into a monetary amount. This effort was done using information from US EPA's Basic Oil Spill Cost Estimation Model (BOSCEM), which estimates response costs, as well as socioeconomic and environmental costs. BOSCEM breaks down costs by type of oil and by size of spill. Several other factors are also used in BOSCEM including habitat, socioeconomic and cultural value of the area, and response methods. Because information on these factors was unavailable, we used the "default" assumptions in the model. These baseline numbers assume mechanical recovery of 10% of the oil spilled, location in open water, and that the spill occurred in an area of "moderate" socioeconomic value. Total costs per gallon (in 2006 dollars) are broken down in Table 9.

Volume of Spill (gallons)	**Crude**				**Volatile**				**Heavy**			
	RE	SE	EN	**TO**	RE	SE	EN	**TO**	RE	SE	EN	**TO**
1000000+	$88	$64	$32	**$184**	$8	$75	$10	**$93**	n/a	n/a	n/a	**n/a**
100000 - 1000000	$124	$74	$37	**$234**	$24	$95	$16	**$134**	$405	$158	$100	**$663**
10000-100000	$194	$147	$77	**$418**	$58	$189	$32	**$278**	$404	$630	$95	**$1129**
1000-10000	$205	$315	$84	**$604**	$105	$420	$37	**$562**	$403	$945	$89	**$1437**
500-1000	$207	$210	$91	**$507**	$107	$278	$47	**$433**	$377	$525	$79	**$981**
<500	$209	$53	$95	**$356**	$108	$68	$50	**$227**	$162	$210	$42	**$414**

* - totals may be off slightly due to rounding
RE – Removal Costs; SE – Socioeconomic Costs; EN – Environmental Costs; TO – Total Costs

Table 9 – Basic Oil Spill Cost Estimation Model (BOSCEM)[61]

Risk of spill by Source

Employing the above BOSCEM methodology, Table 10 presents both the risk and estimated total cost of a spill for worst-case discharges and actual spills by sector (1998-2005). were converted to monetary amounts to compare across categories.

[61] U.S. EPA …

Vessel/Facility/ Industry	Most-Probable Worst-Case Discharge (gallons)	Estimated Aggregate Cost ($000s)	Number of spills, 1998-2005	Number spills used to estimate cost[1]	Total Gallons Spilled	Avg. gallons/ spill	Estimated Cost ($000s)
Tanker	12,000,000	2,180,000 (crude) 1,104,000 (product)	30	9	623	69	253
Barge	1,031,000	435,000(crude) 166,000 (product)	69	32	3634	114	1,889
Refinery	770,000	325,000 (crude) 124,000 (product)	50	28	179,848[2]	6423[2]	53,214
Pipeline	1,000,000	422,000 (crude) 161,000 (product)	15	11	238,835[3]	21,712[3]	32,886
Cargo	825,000	100,650	160	79	2,320[4]	29[4]	698
Passenger Vessels	500,000	80,500	54	22	200	9	61
Rail	634,000	102,074	146	122	38,367	312	19,644
Truck[5]	30,000	8,430	1662	1262	132,495	105	54,379
Marinas	1500	855	18	7	1,520[7]	217[6]	848
Recreational Boats	1000	567	620	277	4,650	17	1,273
Passenger Vehicles	150	34	980	649	17,824	27	6,276

1 – Costs were only calculated for those spills for which spill volumes were available in gallons.
2 – Includes two 84,000 gallon spills (March 16, 1998 in Pierce County and January 13, 1999 in Whatcom County). Average gallons/spill for all other spills is 456.
3. Includes 236,000 gallon Olympia Pipeline spill. All other spills average 264 gallons/spill.
4. Does not include 360,000 gallon *New Carissa* spill, which was included in Ecology's database, but occurred in Oregon. Were the *New Carissa* included in the calculations, average spill size would be 4,529 gallons/spill and estimated cost would be $58,658,000.
5. As with all spills, the source depends on what is reported. Thus, a spill reported for a "truck" may be anything from an accident involving a small pickup to a tank truck spilling its contents.
6. Includes 1,500 gallon Harborview Marina fire. All other spills average 3 gallons/spill.

Table 10 – Oil Spill Risk and Estimated Damages from Most-Probable Worst Cast Discharges and Actual Spills, 1998-2005[62]

Near-miss Data

According to Ecology, between 1995 and 2005, 734 near misses and casualties were reported for covered vessels (cargo, passenger, and tanker vessels). In the same time period, 374 spills were recorded.[63] In other words, for every spill, there were nearly twice as many near misses. This supports the argument that the potential for the occurrence of a worst case discharge still exists despite records that show minimal spills over the last 10 years.

Risks to Natural-Resource Based Industries

In addition to those sources posing a risk, there are a number of industries that are exposed to serious risk due to a worst-case spill or the cumulative impacts to smaller spills. Although a comprehensive analysis of potential impacts to all industries is beyond

[62] WA Department of Ecology, Spill Program Database
[63] WA Department of Ecology, Spill Program Database

the scope of this report, we have chosen to briefly highlight the potential risks of spills to two resource-based industries – the tourism industry and the commercial fishing industry.

Impacts of a Worst-Case Spill to the Tourism Industry. The tourism industry in Washington is heavily based upon the health of natural resources in both marine and non-marine areas. Orcas are an icon locally and a major draw for tourists, as are areas along the coast and the Sound in general. Thus, a major oil spill could be devastating to Washington's tourism industry. Travel spending in 2004 totaled $5.6 billion in King County and $729 million in Pierce County.[64] Travel spending in the coastal region of Washington totaled $840 million in 2004.

To try to determine potential risks to the tourism industry from a worst-case spill, a case-in-point is the Exxon Valdez spill. A 1990 study of economic losses to the tourism industry in the wake of Exxon Valdez estimated a total loss of approximately $19 million (about a 10% decrease) including decreases in visitor spending and a total decrease in number of visitors.[65] Thus, a worst-case spill that created a 10% decrease in tourism in King County *alone* could have an economic impact of $560 million. If the spill also affected tourism in Pierce County, the total impact would increase to $638 million. A spill that decreased tourism receipts by 10% along the coast would have an effect of over $84 million.

Impact of a Worst-Case Spill on the Commercial Fishing and Shellfishing Industry. Another industry heavily dependent upon marine health and at risk from a worst-case spill are the shell-fishing and fin-fishing industries. In 2004, shellfish farming and fishing in Washington supported 172 firms, 1,257 jobs, and $41,656,680 in wages. The finfish industry supports 322 firms, 1,330 jobs and $104,583,731 in wages.[66] A healthy Washington fishing industry also has an effect on other industries in Washington including fish processing, wholesale and retail fish merchants, and others. Thus, a major oil spill in Puget Sound or along the coast of Washington could have a significant effect on both the shellfish and finfish industry in Washington. Major shell-fishing areas in Washington, especially those in and around Hood Canal and Dabob and Quilcene Bays, are relatively isolated and enclosed. Thus, if a worst-case spill affected these areas, the ability for tidal and other influences to spilled oil would be limited, and it is possible that the impact on shell-fishing could last several years.

Again, Exxon Valdez is a good example of the effect of a major spill on the fishing industry. Commercial fishers were awarded well over $200 million due to lost wages in the courts in the wake of the disaster, during which the commercial fishing industry in the area was completely shut down. Many of these fishermen argue that they lost much more

[64] Dean Runyan Associates, 2005. *Washington State County Travel Impacts 1991-2004.* Prepared for Washington State Community, Trade and Economic Development, Tourism Office.

[65] McDowell Group, 1990. *An Assessment of the Impact of the Exxon Valdez Oil Spill on the Alaska Tourism Industry: Phase I, Initial Assessment*. Prepared for Preston, Thorgrimson, Shidler, Gates, & Ellis.

than what was awarded. A major spill in Washington that completely shut down 50% of shell-fishing jobs in Washington for even three years could result in a loss of over $60 million in wages. A major spill in coastal areas could have an even larger effect, in dollars, on the fin-fishing industry, with the effect in lost wages and lost value of permits in the hundreds of millions of dollars.

Available Funding Options and Implementation Issues

Implementation of a risk-based cost sharing funding program across all elements of the potential spillers and those that are immediately affected by a spill (coastal economy) can raise as much as an additional $20 million per biennium. The following is a list of potential funding options listed in the risk table above. Detailed analysis of these funding options follows.

Barrel Tax Exemptions/Credits Elimination and Tax Increase

This funding option would eliminate the barrel tax exemptions, credits and refunds; increase per barrel tax to six cents per barrel; and extend the barrel tax to include oil and petroleum transported via pipeline.

Background

As noted previously in this section, a five cent per barrel tax is levied on any oil that enters the state while any oil that leaves the state is eligible for a five cent refund/credit whether or not the incoming oil is taxed. The existing barrel tax is on "first entry"; subsequent movement (export and intrastate) is exempt from the tax. The barrel tax has not increased since it was first established in 1991, while the average gasoline price (in real dollars) has increased from $1.09 in 1991 to over $2.55 in 2006[67]. This equates to a 62.4% increase. Meanwhile, the costs for executing a state of the art oil prevention, preparedness, and response program has increased, as well.

Four major pipelines operate in Washington State carrying nearly 100 million barrels annually. Much of the pipeline volume is destined for consumption in the state. Currently however, oil transferred via pipeline is not subject to the barrel tax although pipelines can pose a significant risk to the environment and human health and safety due to explosions and fire, as evidenced by the Olympia Pipeline explosion.

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[66] Covered Employment and Wages for All Industries in Washington for the Period: 2004, Annual," Workforce
Explorer Washington. http://www.workforceexplorer.com

[67] http://www.eia.doe.gov/oil_gas/petroleum/data_publications/wrgp/mogas_history.html. 2006 price is the average of weekly prices through June 26, 2006.

This funding option would entail three changes:

1) Eliminate the barrel tax exemptions, credits, and refunds;
2) Increase the tax to six cents per barrel; and
3) Levy the barrel tax on oil entering the state via pipeline.

The rationale for eliminating the export credit is that the risk of spill from one trip is as risky as another whether it is first entry or subsequent movement. The initial rationale for the export exemption was to keep Washington oil competitive. A portion of the export tax credit includes oil and refined product transported by tanker ship or barge to intrastate locations for which the interstate competitiveness issue is not a significant factor. Nevertheless, an interstate compact between Washington, Alaska, Oregon and California to either establish a common barrel tax and or to establish a process for jointly setting a common barrel tax would eliminate the competitiveness issue. Currently, Alaska and California have barrel taxes. Oregon is the only state on the West Coast that does not have a barrel tax.

Incremental Increase from Funding Options

- Eliminating the barrel tax exemptions, credits, and refunds could raise from $2-2.5 million per year at five cents barrel or $2.5-3.0 million per year at six cents per barrel.
- Raising the barrel tax from five to six cents could raise $1.5 -$2 million per year.
- Imposing the barrel tax on pipeline transfers could raise over $5 million per year.

The increases from these funding options are based on current import/production volumes. Volumes (and thus, funding from these options) is expected to increase by slightly over 1% per year over the next 5-10 years.[68]

Administrative Analysis

Funding Source	Elimination of Export Exemption	Increase per barrel tax to $.06	Eliminate per barrel tax exemption
Existing or new tax	Existing	Existing	Extension of existing tax
Legislation required?	Yes	Yes	Yes
Significant revenue raised?	Yes	Yes	Yes
Stable source of revenue?	Yes	Yes	Yes
Ease of collection?	Yes	Yes	Yes

[68] *Annual Energy Outlook 2006 – With Projection to 2030*, DOE/EIA-0383(2006), Energy Information Administration, Office of Integrated Analysis and Forecasting, U.S. Department of Energy, Washington DC 20585, February, 2006, p.66.

Economic Impact of Pass-through

The barrel tax has been in place since 1992. The cost of gasoline has increased over 60% since then, while the tax has remained constant. If passed through to consumers, a one-cent increase in a tax on a 42 gallon barrel would increase the cost per gallon less than $.0002. A five-cent increase in the cost of gasoline transported via pipeline would increase the cost of gasoline less than 1/10 of one cent. As gasoline is generally an inelastic good, the economic impact of pass through would likely be negligible.

Impact of Funding Source Moving Out of State

According to a Western States Petroleum Association newsletter, in 1999, the petroleum industry accounted for 512,000 direct jobs in the states of Washington, Oregon, California, Arizona, Hawaii, and Nevada with a combined salary of $6.4 billion. 58,000 of these jobs were in Washington. Applying the average salary to the number of Washington employees would yield $728 million. If the same number were applied to the 79,500 induced jobs, the combined salary would be $1.72 billion. In addition, WSPA claims that $1.03 billion was contributed to state and local taxes in Washington in 1999, for a total economic impact to Washington of $2.75 billion in 1999. In 2006 dollars, this would amount to $3.3 billion. Given that there are only four major pipelines and five refineries in Washington State, the annual impact of even one refinery closing out operations or shutting down one pipeline would likely run in the 100s of millions of dollars.

Worst-case Spill Risk from Oil Vessels and Facilities

Type of Vessel/Facility	**Most-Probably Worst-Case Discharge**	**Estimated Aggregate Cost (millions)**
Tanker	12,000,000 gallons	$2208 (crude) $1116 (product)
Barge	1,031,000	$189(crude) $96 (product)
Refinery	770,000	$180(crude) $103 (product)
Pipeline	1,000,000	$184 (crude) $93 (product)

Historical Spill Risk from Oil Vessels and Facilities.

The following table summarizes the number of spills recorded by the Department of Ecology from each source, the number of spills for which volumes were recorded in gallons, and the estimated total cost of spills from each source.

Type of Vessel/ Facility	**# of spills**	**# measured in gallons**	**Estimated Cost**
Tanker	30	9	$253,553
Barge	69	32	$1,889,367
Refineries	50	28	$53,214,384
Pipelines	15	11	$32,886,315
Total	**164**	**80**	**$88,243,619**

Eliminate the Cap on the Response Portion of the Barrel Tax

This funding option would continue the one cent oil spill response account tax above $9.0 million cap and shift the additional funds to the Oil Spill Prevention Account (OSPA).

Background

Currently, one cent of the five cent barrel tax collected in Washington is allocated for the Oil Spill Response Account (OSRA). The account has a cap of $9.0 million dollars. Once the cap is reached, the one cent tax is no longer collected. The adequacy of the $9.0 million OSRA cap needs to be reevaluated since the Oil Spill Liability Trust Fund presently offsets some or all of the state expenditures from the OSRA. This funding option would entail removing the cap on the OSRA and shifting any excess funds above the cap to the OSPA.

Incremental Increase from Funding Options

At current volumes of oil imported to the state, continuing the one cent OSRA tax above the current cap and shifting excess to the OSPA would raise from $0.1-1.5 million per year depending on the necessity to use the OSRA to cover response costs.

Administrative Analysis

Funding Source	Continue one-cent OSRA tax above $9.0M and shift funding to OSPA
Existing or new tax	Existing
Legislation required?	Yes
Significant revenue raised?	Yes
Stable source of revenue?	No, if significant funds are withdrawn from OSRA for response activities without being recovered, the amount could fluctuate significantly.
Ease of collection?	Yes

E*conomic Impact of Pass-through*

If passed through to consumers, a one cent increase in a tax on a 42 gallon barrel would increase the cost per gallon less than $.0002. Even a five-cent increase would increase the cost of gasoline less than 1/10 of 1 cent. As gasoline is generally an inelastic good, the economic impact of pass through would likely be negligible.

Impact of Funding Source Moving Out of State

See discussion for funding option #1 above.

Worst-case Spill Risk from Oil Vessels and Facilities

See discussion in Funding Option #1 above.

Port Moorage Fee Commercial Vessels

This funding option would levy a port moorage fee all commercial vessels including cargo, passenger, and tank barge vessels. This is a good funding source for the bifurcation of derelict vessels since most derelict vessels are former commercial vessels that have been converted to recreational use.

Background

A substantial number of cargo and passenger vessels and tank barges call at Washington State ports on a frequent basis. Oil spills can occur as a result of refueling activities and accidents involving collisions with other vessels, docks, running aground etc. In addition, spills also occur due to equipment malfunction, crew inattention or by deliberate action. According to WDOE records in 2004, cargo and passenger vessels headed for Washington ports made 2,974 entering transits bound for Washington ports. Tank barges made 4,008 transits in Washington waters. Oregon and other states have imposed a moorage fee on vessels that dock at state ports to support their oil spill programs. The funding option would entail a $500 fee every time a cargo, passenger, or tank barge calls at a Washington port. The moorage fee would not apply for simple berth shifts within a port.

Incremental Increase from Funding Options

Based on 2004 data, this funding option could provide approximately $3.5M in funding per year.

Administrative Analysis

Funding Source	**Moorage Fee for Cargo and Passenger Vessels and Tank Barges**
Existing or new tax	New fee
Legislation required?	Yes
Significant revenue raised?	Yes
Stable source of revenue?	Moderate
Ease of collection?	Moderate. Collection would be made through the ports. As a new fee, there are likely to be some initial difficulties in collecting the fee.

Worst-case Spill Risk from Cargo and Passenger Vessels

A 2003 Ecology report suggested that a worst-case discharge from a cargo vessel would be 825,000 gallons of bunker fuel and that from a passenger vessel would be 141,000

gallons of bunker fuel. Using the EPA method, this equates to spill costs of $100,650,000 and $17,202,000, respectively.

Historical Spill Risk from Cargo Vessels

From 1998-2006, Ecology recorded 161 spills from Cargo vessels. Of these, 80 spills had volumes reported in gallons, for a total of 362,320 gallons. The estimated aggregate cost of those spills for which volumes were provided in gallons (80) is $58,657,680. However, the vast majority of the volume (360,000 gallons) and cost arises from the *New Carissa* spill, which actually occurred 200 miles south of Washington off the coast of Oregon with little damage to our coast. Removing this spill from the data leaves 320 gallons spilled by cargo vessels in Washington during the period. During the same period, Ecology recorded 54 spills from passenger vessels. The estimated cost of the 22 spills for which volumes were provided in gallons is $45,800.

Economic Impact of Pass-through

For the cargo industry, a $500 fee would likely be passed onto the consumers – that is, the companies shipping their products and the individuals shipping their belongings. Given that cargo vessels can transport hundreds of containers and the cost of shipping, the cost per container would be much less than one percent. Cross elasticities of demand for ocean shipping are generally in the range of 0.2-0.3. Thus, even a 0.5% increase in shipping price due to a moorage fee would cause a less than 0.1 to 0.15% decrease in demand for cargo.

Demand for cruise travel tends to be quite elastic, along the order of 5 (thus for every 1% increase in cost, there would be a 5% decrease in demand). Assuming 1000 passengers per cruise ship, a $500 moorage fee would cost $.50 per passenger. A quick review of cruise fares to Alaska leaving from Seattle found a lowest fare of $750 per passenger. Median prices are in the range of $1000 per passenger. Other costs to be considered in the total cost of cruise travel include airfare (assume $400 per passenger) and incidentals (assume $300 per passenger). Thus, a $.50 fee per passenger would equate to a .03% increase in cost. At a price elasticity of 5, this would equate to a decrease in demand of 0.15%, or about 1000 passengers per year.

Probability and Impact of Cargo Companies Moving Out of State

The two largest ports in Washington, in terms of marine cargo trade are the Port of Seattle and Port of Tacoma. According to a Port of Seattle study, the cargo operations there generated $42 billion in revenue in 2003 including direct and indirect jobs, business revenue, and tax revenue generated. A similar Port of Tacoma Study found that the economic impact of marine cargo there generated approximately $3.5 billion in revenue in 2004. In 2006 dollars, combined, this would be equal to $48.12 billion in revenue.

Thus, if a cargo carrier representing even 2% of the marine cargo industry in these two ports moved out of state, the impact could be as much as $1 billion.

While the impact of a cargo carrier moving elsewhere may be high, it's also necessary to examine the likelihood that this would occur if a $500 moorage fee were placed on cargo vessels. The most likely west coast locations for such a move, given their cargo capacity, would be the Ports of Long Beach and San Francisco, given their cargo capacity and convenient location. The Facilities Master Plan for the Port of Long Beach indicates that current capacity would only be able to accommodate low-end growth estimates by 2020 (which certainly do not support a move of major Washington-based shippers to California). The plan states that the Port "would still need an additional 419 acres of terminal area by year 2020, along with supporting on-dock rail-yards, utilities, and transportation improvements to meet the projected cargo demand."[69] Thus, it appears as if capacity at the Port of Long Beach would be limited. It also appears that there is limited space in the Port of San Francisco. However, the Port of San Francisco discontinued container operations in 2005.[70]

Seattle is a convenient port of call for Americans headed on Alaskan cruises. As demand for cruises would likely not change significantly if additional oil spill funding were passed through to customers, it is unlikely that a cruise line would move out of the state. Moreover, there is no other convenient port of call in the United States with the capacity for cruise ships heading to Alaska. If a cruise line were to leave the state, the most likely affect would be that another cruise line would expand services to fulfill the demand for cruises leaving from Seattle.

Truck and Railroad Product Transfer Fee

This funding option would impose a five cent per barrel transfer tax on the transportation of oil and petroleum products via tank truck and rail.

Background

Oil products and hazardous materials carried in rail tank cars, trucks, and other modes of transport pose risk to the environment as a result of spillage in the loading and unloading process and more particularly from accidents where rail tankers are overturned, breached or catch on fire. Cleanup of rail and truck accident spills can be difficult and expensive especially where the spilled cargo enters waterways.

Fuel is delivered to markets throughout Washington State from trucking distribution centers. These centers are located at the five refineries in the state and at large holding facilities at Harbor Island in Seattle, Renton, Tukwila, Tumwater, Tacoma, Anacortes, Ferndale, Vancouver, Moses Lake, Pasco and Spokane. Money could be raised for

[69] Port of Long Beach. *Facilities Master Plan.*
[70] Port of San Francisco, "Container Report in TEU, 2001-2005."

Washington oil spill programs by levying a five cent per barrel transfer tax during loading or unloading processes.

Incremental Increase from Funding Options

Data indicating the number and volumes of oil transfers in Washington is unavailable. As a proxy, we are using the total amount of gasoline (motor, aviation, jet, etc.) consumed in Washington per year. According to the Energy Information Administration, average petroleum sales in Washington State in the last five years (through April 2004) were 13,200,000 gallons per day, or 4,818,000,000 gallons per year.[71] This equates to approximately 100,000,000 barrels of fuel. Thus, a five cent per barrel transfer tax could net as much as $5 million in revenue per year.

Administrative Analysis

Funding Source	**Truck and Rail Transfer Fee**
Existing or new tax	New fee
Legislation required?	Yes
Significant revenue raised?	Yes
Stable source of revenue?	Yes
Ease of collection?	Collection would have to be made at refineries and holding facilities. Tracking the amount of oil and amount of tax owed by each individual trucking or rail company would be complicated and would likely require additional state staff to track.

Economic Impact of Pass-through

Pass through would affect consumers of petroleum product. A 5-cent per barrel tax would raise gas prices by 0.1 cents per gallon. At current prices near $3/gallon and an inelastic good, the economic impact would be minimal.

[71] www.eia.doe.gov

Impact and Probability of Funding Source Moving Out of State

As there are only a few rail lines that use Washington, the impact of one of them moving out of state could be quite large. The impact of one trucking line leaving would be less, although it could be felt in certain communities. That said, oil is only a small percentage of the total cargo transported by the freight rail industry in Washington. As a result, the likelihood of a railway leaving Washington due to any funding option is likely minimal. In addition, the need for oil transport within Washington will exist as long as there are people who drive in the state. Current estimates show the demand for gasoline in the state to be *rising* by 0.5% per year. As a result, a 5-cent per barrel transfer tax will likely result in a loss of trucking companies operating in Washington.

Worst-case Spill Risk from Truck and Rail

A worst-case spill for a rail car, as defined in Department of Transportation Regulations is the size of one container. Oil tank cars researched online hold around 60 m^3 or about 15850 gallons. A major spill that causes 40 such tank cars to overturn could cause as much as 634,000 gallons to spill. Estimated costs of a spill of this size would be $102,074,000. Given that a tank truck often carries three tankers of gasoline, a worst-case spill for a tanker truck can be up to three times the volume of one tank, which we have approximated to be 10,000 gallons. A worst-case spill for an entire load would correspond to a cost of $8.4 million.

Historical Spill Risk from Rail and Trucks

There were 147 spills from rail transportation recorded by Ecology from 1998-2006, of which 122 had spill volumes measured in gallons at a total volume of 38,367 gallons. The estimated response, socioeconomic, and environmental cost of these spills is $19,644,475. 1661 spills from trucks were recorded by Ecology from 1998-2006, of which 1262 had spill volumes measured in gallons for a total volume spilled of 132,495 gallons. However, the vast majority of these involved trucks other than tank trucks. The estimated response, socioeconomic, and environmental cost of these spills is $54,378,574. However, it is unclear from the data how much of this is attributable to tank trucks. Calculating this risk would require review of records of all truck spills, a task that was beyond the scope of this project.

Marina Moorage Fee

This funding option would impose either a moorage fee or fueling fee on recreational boats within the state.

Background

Washington has some 350 public and private marinas; 2000 fishing vessels, 165,000 power boats, and 21,500 sailboats, many of which are fueled at marina-based fueling facilities. A way to raise funding for oil spill programs is to charge an annual $5 moorage fee for all vessels docking in public and private marinas.

Incremental Increase from Funding Options

Assuming one annual moorage for each vessel in Washington, a $5 surcharge on moorage fees could raise approximately $1 million per year.

Administrative Analysis

Funding Source	**Marina Moorage Fee**
Existing or new tax	New fee
Legislation required?	Yes
Significant revenue raised?	Uncertain.
Stable source of revenue?	No. Moorage likely will vary considerably from year-to-year depending on weather conditions and other factors.
Ease of collection?	Collection would be difficult, as each marina would have to collect the fees. There would likely be significant "growing pains" associated with training marina operators to collect fees. Tracking collection would require additional state staff.

Economic Impact of Pass-through

Economic pass through of moorage fees would likely be passed on to the boaters who use the marinas. A $5 fee is significant for one day or moorage. However, for long-term moorage, the $5 fee would likely have a negligible impact on the demand for moorage.

Impact of Funding Source Moving Out of State

It is unlikely that a $5 moorage fee would result in a significant number of recreational boaters to leave the state.

Impact of a Worst-case Spill Risk from a Marina

A most-probable worst-case spill would be along the lines of the 1500-gallon Harborview Marina Fire that occurred in August 2005. This spill cost an estimated $843,000, taking into account response, socioeconomic, and environmental factors.

Historical Spill Risk from Marinas

18 spills from port facilities were reported to Ecology from 1998-2006, of which 7 had volume spilled reported in gallons for a total of 1,520 gallons. The estimated cost of these spills is $848,101. The vast majority (>99%) of this cost is due to the Harborview Marina Fire at Gig Harbor, in which an estimated 1500 gallons were released.

It is likely that there were hundreds, if not thousands, of smaller spills at marinas that have not been reported to Ecology. While most of these individually would not pose much risk, cumulatively, they may pose a significant risk, particularly to the waters surrounding marinas.

Cruise Line Passenger Fee

This funding source would impose a head tax on passengers of cruise lines.

Background

In 2005, 170 cruise ships entered Puget Sound transiting to and from cruise line docks in Seattle. Some 686,000 passengers were booked for primarily spring, summer and fall cruises to and from Alaska. Cruise lines docking at the Port of Seattle include Celebrity, Holland America, Norwegian, Royal Caribbean and Princess. Cruise ships have only recently been calling at Washington ports; the number of cruise passengers entering and leaving Puget Sound are expected to increase in the near future. Cruise ships can pose a significant oil spill risk; in addition, a major oil spill would heavily impact the industry.

Incremental Increase from Funding Options

A per passenger fare surcharge of $2.00 would generate $1,380,000 in additional revenue.

Administrative Analysis

Funding Source	Cruise Line Passenger Fee
Existing or new tax	New fee
Legislation required?	Yes
Significant revenue raised?	Yes.
Stable source of revenue?	Seasonal and will vary with fluctuations in disposable income.
Ease of collection?	Collection would be moderately difficult. While the number of major cruise lines operating out of Washington is limited, this would impose a new fee and would likely require additional staff time to track collections.

Economic Impact of Pass-through

Demand for cruise travel tends to be quite elastic, along the order of 5 (thus for every 1% increase in cost, there would be a 5% decrease in demand). A quick review of cruise fares to Alaska leaving from Seattle found a lowest fare of $750 per passenger. Median prices are in the range of $1000 per passenger, just for being on the cruise. Other costs to be considered in the total cost of cruise travel include airfare (assume $400 per passenger) and incidentals (assume $300 per passenger). A $2 per passenger fee would equate to a .12% increase in cost. At a price elasticity of 5, this would equate to a decrease in demand of 0.6%, or about 4000 passengers per year.

Impact of Funding Source Moving Out of State

Seattle is a convenient port of call for Americans headed on Alaskan cruises. The only likely substitute port is Vancouver, B.C., from where Alaskan-bound cruises also depart. However, substitution of Vancouver for Seattle would likely incur costs greater than a $2 fee for many passengers. As a result, the likelihood of a cruiseliner leaving the state due to a $2 fee is minimal. In fact, if a cruise line were to leave the state, the most likely effect would be that another cruise line would be able to fulfill the demand for cruises leaving from Seattle.

Impact of a Worst-case Spill Risk from a Cruise Ship

A 2003 Ecology report suggested that a worst case discharge from a passenger vessel, such as a cruise ship, is 141,000 gallons of bunker fuel. This equates to a spill cost of $17,202,000, respectively.

Historical Spill Risk from Passenger Vessels/Cruise Ships

From 1998-2006 Ecology recorded 54 spills from passenger vessels. The estimated cost of the 22 spills for which volumes were provided in gallons is $61,108.

Recreational Boat Registration Fees and Excise Tax

This funding option would impose a surcharge on

Background

Some 165,000 power boats and 21,500 sail boats (most have small engines for low wind conditions and docking) are registered in Washington State. A surcharge on the current $10.50/year licensing fees or an expansion of the current 1/2 of 1% watercraft excise tax could produce additional revenue for the oil spill program.

In addition to recreational boats, derelict vessels pose a risk due to the potential for leaking and or spilling oil and fuel products. Derelict vessels may sink, creating a potential long term problem of long term oil/fuel leakage. Concerns exist about derelict fishing or commercial vessels being sold as recreational vessels to avoid clean up costs. Currently, recreational boat license fees now include a $2.00 portion to fund a derelict vessel program. The Department of Natural Resources is requesting a one-time $2 million allocation for the 2007-2009 Biennium to address derelict vessels.

Incremental Increase from Funding Options

The current $10.50 licensing fee is forecasted to raise $5.9 million for the 2005-2007 Biennium. However, most of this money, with the exception of the $2.00 derelict vessel portion, goes to counties with approved boating safety programs. Adding $5 to the fee would increase the funds raised by 47.6%, or $2.8 million per biennium, or $1.4 million per year. Doubling the current $2 per boat fee that is funding the derelict vessel program could produce an additional $560,000 in revenue per year for the derelict vessel program. A 0.5% increase in the current watercraft excise tax could also produce $10-12 million per year.

Administrative Analysis

Funding Source	Recreational Boat License Fees and Excise Tax
Existing or new tax	New fee added to existing fees
Legislation required?	Yes
Significant revenue raised?	Yes.
Stable source of revenue?	Seasonal
Ease of collection?	Easy to add fee to licensing and increase the excise tax

Economic Impact of Pass-through

Vessel licensing fees have been $10.50 per year since 1994. An additional $5 fee is small compared to the total annual costs of owning a recreational vessel including insurance, moorage, fuel, maintenance, etc. Thus, while pleasure vessels are generally an elastic good, it is likely that the $5 fee would not have a significant economic impact.

Economic Impact and Likelihood of Funding Source Moving Out of State

As noted above, it is unlikely that a $5 licensing fee would have a dramatic economic impact on recreational boaters. Given the aesthetics of Puget Sound, it is unlikely that such a fee would cause pleasure boaters to leave the state in droves, as this is a minor consideration in the decision to move elsewhere.

Impact of a Worst-case Spill Risk from Recreational Boats/Derelict Vessels

A worst-case discharge from a recreational boat would be on the order of 1,000 gallons, which would equate to an approximate cleanup, socioeconomic, and environmental cost of $562,000.

Historical Spill Risk from Recreational Boats/Derelict Vessels

Between 1998 and 2006, 620 spills from pleasure craft were recorded by Ecology, 277 with volumes reported in gallons, for a total volume of 4650 gallons. Estimated cleanup costs for these spills is $1,272,755. It should be noted that there are likely numerous recreational spills that have not been reported.

Vehicle Title Transfer Fee

Background

There are approximately 5 million cars registered in Washington State. Accidents involving private cars cause the spillage of relative small amounts of oil and gasoline per incident. Each spill requires cleanup and potentially involves contamination of the state's water and land resources. As discussed earlier in this section, a percentage of the vehicle title transfer fees are currently used to fund the Vessel Response Account that supports the rescue tug at Neah Bay. This funding sunsets in 2008, which will require legislative action to remove the sunset clause or find a new source of revenue for the rescue tug.

Incremental Increase from Funding Options

Although a small increase in the annual registration fee would produce additional revenue to support the spill program, the Council recommends continuation of this funding mechanism by repealing the sunset clause and including an inflation factor to ensure long-term sustainability.

Administrative Analysis

Funding Source	**Vehicle Title Transfer Fee**
Existing or new tax	Existing fee
Legislation required?	Yes – remove the sunset clause
Significant revenue raised?	Yes.
Stable source of revenue?	Yes
Ease of collection?	Easy (already exists)

Economic Impact of Pass-through

This fee is passed on to owners of passenger cars, motorcycles, motor homes, for hire vehicles (6 or less passenger capacity), taxicabs, horseless carriages, restored vehicles, stage vehicles with 6 or less seats, travel trailers, personal trailers, other trailers not paying combined licensing fee and tow trucks.

Probability and Impact of Funding Source Moving Out of State

This fee affects nearly every resident of legal driving age in Washington State. Given its modest amount, it is unlikely that this funding source would cause a large number of Washington residents to move.

Impact of a Worst-case Spill Risk from Private Cars

An approximate worst-case spill for passenger vehicles would likely come from a large motor home spilling its entire contents. Luxury motor homes can hold as much as 150 gallons. A spill of that size would cost approximately $34,050 in cleanup, socioeconomic, and environmental costs.

Historical Spill Risk from Private Cars

From 1998-2006, 980 spills from passenger vehicles were reported in Washington. Of these, 649 had spill volumes reported in gallons for a total volume of 17,824 gallons spilled. The estimated cost of these spills is $6,276,334.

Other Funding Options Considered, But Not Analyzed

In addition to those funding options analyzed above, a number of other options were initially considered, but were not analyzed further at the direction of WOSAC. These are described below.

Tourism tax (room tax)

The tourism/recreation industry plays a significant role in Washington State's overall economy. In 2004, Washington's $11.7 billion industry supports more than 139,000 jobs. The tourism industry is especially important in areas, such as Puget Sound, Hood Canal, the Washington Coast and the Columbia River, where tourism/ recreation values are heavily dependent on marine resources, fisheries, boating, scenic beauty, and environmental/ecological good health. A major oil spill could have a catastrophic impact, devastating tourism/recreation activities for years to come. A succession of smaller spills or an accumulation of frequent minor spills (as with refueling operations) has the potential for significant damage to this important industry. An expansion of the current 2% lodging tax could assist in paying for spill program activities. Preliminary estimates for 2005 show that the lodging tax raised approximately $30,000,000 for state programs. Thus, every 0.1% expansion of this tax would raise $1.5 million.

Pilotage Fee Surcharge

Large cargo and tank ship vessels entering the Strait of Juan de Fuca are required to take on a licensed pilot at Port Angeles. Upon leaving a Puget Sound port, harbor or dock a pilot is required until reaching Port Angeles. The ships operators are required to pay a pilotage fee for each transit in or out of state waters. With some 4000 transits per year a $500 surcharge on the pilotage fee of $500 would produce additional revenues of $2,000,000 for the oil spill program. However, pilots are generally sole proprietors or

small companies; as a result, such a surcharge would have a disproportionate impact on pilots.

Ferry System Surcharge

As the largest single ferry system in the world the Washington State Ferry System has some 28 ferry vessels of 300 gross tons or larger, regularly transiting to some 20 terminals in all portions of Puget Sound, including the traffic intensive Seattle to Bremerton route. The ferry systems operating on state waters carry a substantial volume of passengers and vehicles. To provide additional funding support to the state's oil spill program, it would be relatively efficient to add a per passenger and/or per vehicle fee to the current fee schedule of the Washington State Ferry System. An added fee of $.25 per passenger and $.50 per car would produce some $6,250,000 or $5,000,000 of revenue respectively for the program annually.

Home Heating Oil Delivery Surcharge

Just a small portion of the truck delivery of oil products in the state is represented by the heating oil industry. Some 100,000 homes in the state use oil for heating. The average home uses between 75-85 gallons of oil annually. On average that market amounts to some 8 million gallons of oil and 11,000 truck loads of fuel delivered to homes each year. A $.05 per gallon delivery surcharge would raise $400,000 per year.

Airplane Fuel Tax

Spillage occurs during refueling and as a result of accidents. Spilled fuel on or around airports can reach significant levels. Just 52 spill incidents were reported between 1998 and 2006, but involved nearly 12,000 gallons of oil or fuel. A small increase in the airplane fuel tax would produce additional revenue to support the oil spill program. An average of 1.87 million gallons of jet fuel was purchased daily in Washington over the last two years, or approximately 680,000,000 gallons per year. A 1-cent airplane fuel tax could raise nearly $7,000,000 in revenue.

Waterfront Real Estate Sales Tax

Waterfront property is highly vulnerable to damage resulting from spills or oil or product. The negative effects of spills are often long lasting and can seriously depress property values. A surcharge on the real estate sales tax on waterfront property would produce additional revenue to support the oil spill program.

Coordination With The Navy And Coast Guard

Although not a funding mechanism, closer coordination with the Navy and the Coast Guard would be an effective way to incur potential cost savings while improving oil spill prevention and response programs in Washington. The Navy maintains depots in several locations in the country which contain equipment useful in responding to and cleaning up oil spills. It would be added value to the oil spill program would to seek the location of one of the Navy's equipment depots in Puget Sound. The additional equipment obtained from a new depot could have an added value to the program of several hundred thousand dollars a year.

In addition, the Coast Guard currently provides many essential prevention, preparedness and response capabilities to the oil spill program. The Marine Vessel Traffic System is a key element of that capability. Inspection programs, rescue vessels, communication systems and other elements are essential to the success of an oil spill program. Washington's oil spill program could be improved by working with the Coast Guard to strengthen and enhance these elements of the oil spill program.

APPENDIX A
PREVENTION PROGRAM COMPARISON MATRIX

OIL SPILL PREVENTION PROGRAM COMPARISON MATRIX

Prevention Element	Washington	California	Oregon	Alaska	Federal / IMO
Rescue Tug	Permanently on call at Neah Bay, area covered includes the Straight of Juan de Fuca, the west Coast of Vancouver Is. and the west coast of Washington	Stays in port until called out for emergencies, GRP's define the areas that are used by different rescue tugs	No data	Alyeska Pipeline Co. maintains four escort tugs for tank vessels in PWS, five escort response vessels, and one high powered escort tug	NA
Escort Tug	Follows federal rules maintained by Coast Guard: single hulled oil tankers are required to have escorts in Puget Sound, doesn't apply to tankers less than 5K gross tons or tank barges of any size.	San Francisco Bay Harbor requires the use of escort tugs for all tank vessels	No data	Prince Williams Sound requires the use of escort tugs for all tank vessels	Single hull tankers over 5,000 GT in Prince William Sound and Puget Sound (including associated waters for both sounds) must be escorted by at least two suitable escort vessels.
Contingency Plans	Onshore and offshore facilities are required to submit these plans to show that they are able to contain a spill	All tank vessels, facilities and non-tank vessels over 300 gross tons carrying petroleum products must submit a cont. plan; non-tank vessels pay a processing fee of $2500 to fund OSPR. Each plan holder shall	Vessels and Facilities must submit spill response plans to DEQ for approval. They must include: documentation of training on spill prevention, a facility operations manual, maintenance and	Renewed every 5 years, reviewed by the Dept. F&W & DNR and approved by DEQ	▪ SPCC plans for non-transportation related facilities. ▪ Federal Contingency Plan, Area Contingency Plans, and Local Contingency Plans are developed by the USCG & EPA

Prevention Element	Washington	California	Oregon	Alaska	Federal / IMO
		own equipment to contain a 50gallon spill.	inspection program, and a description of the containment boom used at facilities.		in coordination with state and local governments in order to respond to oil spills.
Prevention Plans	Required for tank vessels and facilities as a part of their contingency plan	No data	No data	Regulated operators must submit prevention plans along with their contingency plans. Staff verifies prevention measures through plan review and follow up inspections. Non-tank vessels can receive prevention credits for submitting prevention plans	NA
GRP's	Focus on reducing impacts from spills in the Puget Sound and Columbia River	Three Port Areas have contingency plans that detail the protocols for clean-up within the first 24 hours of a spill, six coastal subdivisions provide details about sensitive habitat and environmental factors in their areas	Focus on reducing impacts from spills in the Willamette and Columbia Rivers, and the coast; identifies preferred response activities including containment strategies and sensitive area protection.	GRS's identify sensitive areas that should be protected first after a spill event; ten subareas have been identified and GRS's developed for these regions	Northwest Area Contingency Plans for Puget Sound and Oregon (including the Columbia River) is a federal plan that coordinates the response to a large spill. Provides guidelines for coordination between

Prevention Element	Washington	California	Oregon	Alaska	Federal / IMO
					federal, state and local governments during an emergency.
Harbor Safety Committees	Puget Sound area committee focused on Safety and Security	Five committees located in major harbors focus on local prevention measures. HSC create harbor plans to reduce accidents	No data	Prince Williams Sound RCAC and Cook Inlet RCAC support main ports	NA
Drills / Trainings	Ecology has a 3yr drill cycle: facilities and vessels must complete one tabletop and two deployment exercises in the three year cycle Drills are conducted and logged at least quarterly for: a. Oil spill response; b. Emergency steering, that complies with the International Convention of Safety of Life at Sea, Chapter V, Regulation 19-2(d); c. Loss of propulsion; d. Loss of electrical power; e. Emergency	Announced and unannounced drills are required of facilities and pipelines; they require deployment, equipment and tabletop exercises.	One major, and four significant drills are planned per biennium. The DEQ participates as an observer in all of these drills.	Scheduled and unannounced drills test the viability of oil spill response plans	Requires position specific training, officers not required to have training in all shipboard systems. Senior officers are not required to have shipboard management training. All members of the bridge team are not required to have BRM training. Limited number of shipboard drills required.

Prevention Element	Washington	California	Oregon	Alaska	Federal / IMO
	towing; and f. Man overboard. The vessel's master and other licensed deck officers are trained in: (1) Bridge Resource Management (BRM); (2) Automated Radar Plotting Aids (ARPA); (3) Shiphandling; (4) Crude oil washing, if the vessel is so equipped; (5) Inert gas systems, if the vessel is so equipped; (6) Cargo handling for all cargo types carried, including associated hazards with each cargo type, and hull stress during cargo transfer; (7) Oil spill prevention and response responsibilities; and (8) Shipboard fire fighting.				
Education &	No data	Local education at	No data	Division creates	SEA Partners

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Outreach		marinas for non-tank vessel spills; brochures and flyers, signs, voluntary inspections, "OSPR guide to clean green boating", presentations and call line for questions.		manuals, handbooks and outreach material, public service announcements, training and non-regulatory audits and inspections.	Campaign a non-regulatory public outreach and education program run by the CG. Objectives: protect the marine environment& promote economic well-being, raise public awareness of marine pollution issues, and prevent the discharge of marine pollutants. They target commercial fishing vessels, port and terminal operators, marina operators, shipping agents, env. org's, shipping co., waste haulers, recreational boaters, students and teachers, and private groups. Their efforts are focused on the effects of oil, how env. laws affect different groups, and what individuals

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					and groups can do to protect the environment.

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Inspections	1,200 onboard vessel inspections each year to review compliance with fed, state and international laws and observe bunkering operations.	Coast Guard does most of the inspections of vessels. ▪ Requires notification of OSPR staff 24 hours prior to the start of any transfer operations. Both the transfer unit and the receiving unit may be monitored by division staff during any phase of the oil transfer.	Vessel inspection records and oil transfer procedures must be available upon request.	Division staff conducts onsite inspections of production facilities, pipelines, tank vessels, oil barges and oil storage facilities ▪ The department at any time may inspect oil terminal facilities, pipelines, exploration and production facilities, tank vessels, and oil barges in order to ensure compliance with regulations and examine the structural integrity and the operating and mechanical systems of those vessels, barges, pipelines, and facilities by federal and state agencies with jurisdiction.	Under the Marine Inspection Administration, the Officer in Charge, Marine Inspection (OCMI) is responsible for carrying out all vessel inspection for compliance with federal laws. All inspection personnel must consider the: ▪ Burden of proposing repairs to the vessel owner ▪ Delays to the vessel must be balanced with the risk of continued operation ▪ Type of equipment, repair or construction will be lest costly to owner/operator ▪ Some repairs can be safely delayed and less costly at a different place and

Prevention Element	Washington	California	Oregon	Alaska	Federal / IMO
					time ▪ Overall vessel operating conditions should be considered in determining inspection requirements ▪ Consider other inspection requirements from other agencies ▪ Maintain a balance between safety and practical operation

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Transfer Rule	▪ Each Class 2 facility shall develop and implement OT training ▪ OT training programs must be approved by Ecology ▪ Training documented, records kept at central, accessible location for at least 5 years ▪ The delivering vessel's PIC must ensure continuous two-way voice communications is usable and available in all weather conditions as well as all phases of the transfer operation between the PICs. ▪ Before the start of an oil transfer	Provisions apply to all oil transfers other than internal vessel transfers regardless of the quantity being transferred, all dry dock transfers, and all vessels engaged in oil transfer operations; it doesn't apply to non-tank vessels, small craft refueling docks, or public vessels. ▪ No formal training or certification is required for personnel. ▪ A separate person in charge must be identified that meets the requirements in CFR 155.820 must be designated for all oil transfers. ▪ Requires either pre-booming or sufficient standby booming that can	Oregon has no specific oil transfer regulations. Operations manuals and other prevention documents prepared to meet federal requirements. Spill prevention strategies at a minimum must provide the following: ▪ Documentation of the types and frequency of spill prevention training ▪ Evidence that the facility has an operations manual ▪ Maintenance and inspection records ▪ Description of the containment boom at facilities transferring oil ▪ Minimization of post-shut down residual drain out from pipes that	▪ No specific statute or training and/or certification for personnel, but the owner/operator must submit plans detailing training for each employee position. ▪ Unless it is technically unfeasible to do so, an oil containment boom must be deployed around a tank vessel or barge during the transfer of crude oil.	▪ The facility operator has designated that person as a person in charge ▪ The person has had at least 48 hours of experience in transfer operations at a facility in operations to which this part applies. The person also has enough experience at the facility for which qualification is desired to enable the facility operator to determine that the person's experience is adequate ▪ Each tank vessel must have a means that enables continuous two way

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	operation, the PICs must hold a face to face pretransfer conference unless the receiving vessel's master/officer-in-charge determines it is unsafe.	be deployed in 30 minutes if a spill occurs during transfers.	may open during a transfer.		communication between persons in charge of the transfer. ▪ Each person in charge shall carry evidence of his designation as a person in charge when he is engaged in transfer operations unless such evidence is immediately available at the facility ▪ ops manual amendment if COTP finds it inadequate or facility proposes amendment ▪ No person may use any Operations Manual for transfer operations as required by this chapter unless the Operations Manual

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					has been examined by the COTP

Prevention Element	Washington	California	Oregon	Alaska	Federal / IMO
Construction Standards	NA	NA	NA	NA	Coast Guard conducts an initial inspection for all vessels that are subject to federal regulations; this inspection regulates the construction and all repairs to a vessel. If a vessel makes a repair in a foreign port the repair must be reported to OCMI at the first port where a vessel call is made. ▪ 1975 and 1979 Codes regulate Construction of all Ships and Offshore Facilities handling oil
Engineering	A vessel's licensed engineering officers are trained in: (1) Inert gas systems, if the vessel is so equipped; (2) Vapor recovery systems, if the vessel is so equipped; (3) Crude oil washing, if	NA	NA	NA	Coast Guard is responsible for regulating all equipment installed on a vessel to insure the safety of a vessel, the safety of the personnel, and the performance of a

Prevention Element	Washington	California	Oregon	Alaska	Federal / IMO
	the vessel is so equipped; (4) Oil spill prevention and response responsibilities; and (5) Shipboard fire fighting.				safety function. The CG controls the Design, Construction and Installation of all equipment on vessels. They control the equipment by: ▪ Setting standards ▪ Approving plans ▪ Approving types of equipment ▪ Conducting tests and inspections of equipment Steering Flat Inspections not required; Changing to maneuvering fuel outside coastal waters not required

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Drug and Alcohol Testing	▪ A person can neither consume, nor be under the influence of, alcohol on a tanker while in state waters unless that person is a passenger who does not perform, and will not perform, any duty on the tanker in WA State waters ▪ A person can neither consume, nor be under the influence of, illicit drugs on a tanker while in WA State waters.	NA	NA	NA	Drug & Alcohol Program Inspectors work to educate and assist marine employers in creating chemical testing programs for their employees; they also are responsible for enforcing the chemical testing regulations. ▪ Random alcohol tests to ensure zero tolerance are not required.
Tug Technology	NA	NA	NA	NA	Twin screws and minimum bollard pull for coastal tank barge towing not required; Emergency reconnection equipment not required.

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Prevention Studies	▪ North Puget Sound Management Panel ▪ Scoping Risk Assessment – Protecting Against Marine Oil Spills ▪ International Tug of Opportunity Study ▪ Tug Needs Study ▪ Port Access Route Study ▪ Haro Strait Risk Assessment ▪ Waterway Assessment – Aids to Navigation	▪ Wildlife Response Plan ▪ Impacts to Natural Resources from the Point Reyes Tarball Incident ▪ Prevention First Conference in Sept. 2006	No data	▪ Review of oil discharge prevention and contingency plan regulations ▪ Prince William Sound Places of Refuge studies ▪ Voluntary Pipeline Reporting ▪ Vessel Docking & Assistance ▪ Tanker escort system ▪ Non-Tank Plan Review ▪ Fishing vessel training	▪ US Oil Spill Response Equipment (state comparison) ▪ Oil Pollution Research and Technology Plan ▪ Incident Specific Preparedness ▪ Effects of Double Hull Requirements ▪ Quality Action Team on Towing Vessel Crew Facilities ▪ Evaluation of Oil Tanker Routing
Work Hour Restrictions	▪ Receiving and delivering personnel involved in bunkering transfers must comply with OPA 90 work restrictions. ▪ Crew members comply with OPA	▪ No shore-side person involved in oil transfers can work more than 16hrs in a 24hr period, or more than 40hrs in a 72hr period.	No data	▪ No specific requirements for rest	▪ On vessels conducting lightering operations no individual may work more than 15hrs in a 25hr period, or more than 36hrs in a 72hr period.

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	90 work hour restrictions or STCW 95 rest period requirements. Company policies ensure crew members are well-rested and able to perform their duties. ▪ Work hours (rest periods) are documented and maintained, and if requested, made available to the Department of Ecology.				▪ Each person assigned duty as officer of a navigational or engineering watch shall receive a minimum of 10hrs of rest in any 24hr period.

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Pilotage	▪ The navigation watch consists of at least two licensed deck officers, a helmsman, and a lookout. One of the licensed deck officers may be a state-licensed pilot when the tanker is in pilotage waters. The helmsman does not serve as a lookout. ▪ Each vessel employs a bridge resource management system for vessel navigation, collision avoidance, and bridge administration that organizes the navigation watch into a bridge team and coordinates the	No data	No data	No data	BC States Task Force Rec's 13. Marine pilots should have access to databases of information about vessel movements, characteristic, etc. 14. Continuing education standards for following elements at least once every five years – BRM: radars and advance radar plotting aids, and advanced ship handling courses. 15. Performance Monitoring systems for pilots with unlimited licenses. 16. Non-regulatory and confidential near miss reporting system 17. Pilot regulatory agencies and pilot

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	use of bridge equipment. ▪ Guidelines for coordination with pilots: a. Pilot coordination occurs in a manner that does not interfere with the performance of the pilot's duties. b. The master or officer in charge of the watch identifies for the pilot those members of the bridge team who are proficient in English and explains the responsibilities of each licensed deck officer on watch. c. The master or officer in charge of the watch uses a checklist that includes, at a				authorities should develop formal incident investigation procedures 18. Follow US Coast Guard rules guiding drug/alcohol use and testing 19. Pilot coordination checklist should be used to exchange critical navigation information to the navigation watch officer after a pilot boards a vessel. 20. Require navigation watch officer to monitor collision avoidance communications while their ship is being piloted. 21. Review incidents for vessels that don't require pilotage, if the

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	minimum, the following: (1) Information requested by the pilot under WAC 296-116-205 concerning vessel maneuvering characteristics, condition of navigation and communication equipment, capabilities and problems with the propulsion and steering system, and other vessel specifications; (2) Navigational procedures and considerations, including destination, intended route, planned speed, vessel traffic services, and tug escort				number of incidents is greater than those vessels that require pilotage than a requirement should be considered. 22. Pilot regulatory agencies and pilot authorities should help fund continuing education in ports where vessel traffic is to infrequent to support education in areas where it is deemed appropriate.

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	requirements; and (3) Local conditions including expected weather, tide, current, sea conditions, and vessel traffic.				